

Co., and in 1902 purchased the property of the Cromwell Steamship Co.

The Mojave Division of the Southern Pacific Railroad, 242 miles, is leased to the Atchison, Topeka & Santa Fe Railway Company until 1979, at an annual rental of \$218,133.

DIRECTORS (15), elected April 9, 1902: [1048]

T. J. Coolidge, Jr., Boston.

Wm. D. Cornish, New York.

George J. Gould, Lakewood, N. Y.

E. H. Harriman, Arden, N. Y.

Edwin Hawley, New York.

H. E. Huntington, San Francisco.

James H. Hyde, New York.

Otto H. Kahn, Morriston, N. J.

(x) J. W. Mackey, New York.

D. O. Mills, New York.

Winslow S. Pierce, New York.

Jacob H. Schiff, New York.

James Speyer, New York.

James Stillman, New York.

Charles H. Tweed, New York.

(x) Deceased.

(35)

EXECUTIVE COMMITTEE (8), elected April 11, 1902:

E. H. Harriman, Chairman.

George J. Gould.

Edwin Hawley.

Otto H. Kahn.

Jacob H. Schiff.

James Speyer.

James Stillman.

Charles H. Tweed.

#### OFFICERS

EXECUTIVE DEPARTMENT, elected April 11,  
1902:

E. H. Harriman, President, Arden, N. Y. [1049]

H. E. Huntington, Vice President, San Francisco.  
Second Vice-President.

J. C. Stubbs, Third Vice-President, Chicago.

J. Kruttschnitt, Fourth V.-P. and Asst. to Prest.,  
San Francisco.

Alex Millar, Clerk and Secretary, New York.

Jos. Hellen, Assistant Secretary, New York.

G. T. Klink, Assistant Secretary, San Francisco.

John B. Weaver, Assistant Clerk, Beechmont, Ky.

N. T. Smith, Treasurer, San Francisco.

A. K. Van Deventer, Assistant Treasurer, New  
York.

---

Alex Millar, Transfer Agent for Bonds and Stock,  
New York.

Otto C. Kahn, Asst. Trans. Agent for Bonds and  
Stock, New York.

Union Trust Company, Registrar of Transfers,  
New York.

#### LEGAL DEPARTMENT:

W. F. Herrin, Chief Counsel, San Francisco.

Maxwell Evarts, Attorney, New York.

J. E. Foulds, Attorney, San Francisco.

D. R. Sessions, Claims Attorney, San Francisco.

E. B. Ryan, Tax Attorney, San Francisco.

W. W. Bretherton, Right of Way, Tax and Claim Agent, Portland.

ACCOUNTING DEPARTMENT:

Wm. Mahl, Comptroller, New York.

H. S. Bradt, Assistant Comptroller, New York.

Erastus Young, Omaha. [1050]

G. T. Klink, Auditor, San Francisco.

C. J. Wilder, Assistant Auditor, San Francisco.

D. W. Horsburg, Freight Auditor, San Francisco.

H. S. Lincoln, Assistant Freight Auditor, San Francisco.

E. E. Holton, Ticket Auditor, San Francisco.

(36)

J. C. Stubbs, Traffic Director, Chicago.

B. Campbell, Asst. Traffic Director, Chicago.

Wm. Sproule, Freight Traffic Mgr., Pacific System, San Francisco.

H. A. Jones, Freight Traffic Mgr., Atlantic System, New Orleans.

G. W. Luce, General Freight Agent, San Francisco.

S. N. Bostwick, Asst. General Freight Agent, San Francisco.

Thos. A. Graham, Asst. General Freight Agent, San Francisco.

Chas. S. Fay, Asst. General Freight Agent, New Orleans.

W. E. Coman, General Freight and Passenger Agent, Lines in Oregon, Portland.

G. A. Parkyns, Asst. Gen. Freight and Pass. Agent, Los Angeles.

E. O. McCormick, Passenger Traffic Mgr., San Francisco.

T. H. Goodman, General Passenger Agent, San Francisco.

R. A. Donaldson, Asst. Gen. Passenger Agent, San Francisco.

Jas. Horsburg, Jr., Asst. Gen. Passenger Agent, San Francisco.

H. R. Judah, Asst. Gen. Passenger Agent, San Francisco.

M. L. Robbins, General Passenger Agent, Houston.

F. S. Decker, Asst. Gen. Pass. and Ticket Agent, New Orleans. [1051]

E. B. Carson, General Baggage Agent, San Francisco.

Thornwell Fay, General Agent, New Orleans.

#### TRANSPORTATION DEPARTMENT:

J. Kruttschnitt, General Manager, San Francisco.

Jas. Agler, Manager, San Francisco.

R. Koehler, Manager, Lines in Oregon, Portland.

N. H. Foster, Manager's Assistant, San Francisco.

Geo. F. Richardson, Supt. of Transportation, Pacific and Atlantic Systems, San Francisco.

J. H. Wallace, Engineer, Maintenance of Way, San Francisco.

A. E. Roome, Superintendent Telegraph, San Francisco.

H. J. Small, General Supt. Motive Power, San Francisco.

E. A. Gilbert, Master Car Builder, San Francisco.

W. C. Farrington, Mgr. Atlantic Coast S. S. Lines,  
New Orleans.

**ENGINEERING DEPARTMENT:**

Wm. Hood, Chief Engineer, San Francisco.

**LAND DEPARTMENT:**

Wm. H. Mills, Land Agent, C. P. R. R., San Francisco.

Jerome Madden, Land Agent, S. P. R. R., San Francisco.

Geo. H. Andrews, Acting Land Agent, Portland.

O. C. Gibbs, Land Commissioner, San Antonio.

**SUPPLY DEPARTMENT:**

W. V. S. Thorne, Director of Purchases, New York..

R. P. Schwerin, Manager, Purchases and Supplies,  
San Francisco.

R. Stevenson, Asst. Mgr., Purchases and Supplies,  
San Francisco. [1052]

(37)

Southern Pacific Railroad Company. Incorporated, California Arizona, and New Mexico, March 10, 1902, for 50 years.

. . . . .

(40)

First Mortgage Gold Bonds of S. P. R. R. Co., of California, of 1875, Series A to G, inclusive; authorized \$46,000,000; issued, \$39,285,000; outstanding \$29,187,500, viz.:

- A. Authorized and issued, \$15,000,000;  
dated April 1, 1875; due April 1,  
1905; outstanding .....\$12,505,500

- B. Authorized and issued, \$5,000,000;  
dated October 1, 1875, due October  
1, 1905; outstanding ..... 4,045,000
- C. Authorized and issued, \$5,000,000;  
dated October 1, 1876; due October  
1, 1906; outstanding ..... 3,766,000
- D. Authorized and issued, \$5,000,000;  
dated October 1, 1876; due October  
1, 1906; outstanding ..... 3,747,000
- E. Authorized and issued, \$5,000,000;  
dated April 1, 1882; due April 1,  
1912; outstanding ..... 3,160,000
- F. Authorized, \$5,000,000; issued, \$4,-  
285,000; dated April 1, 1882; due  
April 1, 1912; outstanding ..... 1,964,000
- G. Authorized, \$6,000,000; never issued. [1053]

Interest, 6 per cent., gold, payable April and October. Trustees, D. O. Mills, New York, and Homer S. King, San Francisco.

(41)

Southern Pacific Branch Railway First Mortgage Gold Bonds; authorized, \$9,000,000; issued, \$3,578,000; dated April 1, 1887; due April 1, 1937; outstanding, \$3,533,000. Interest, 6 per cent., gold, payable April and October. Trustee, Union Trust Company of San Francisco.

Stockton & Copperopolis R. R. First Mortgage Gold Bonds; authorized, issued, and outstanding, \$500,000; dated January 1, 1875; due January 1, 1905. Interest, 5 per cent., gold, payable, January and July. Trustee, J. L. Willcutt, San Francisco.

Southern Pacific R. R., of California, First Consolidated Mortgage Gold Bonds of 1893; authorized, \$58,000,000, and such additional amount of bonds as may be sufficient to retire, bond for bond, outstanding first mortgage bonds of the S. P. R. R. Co., issued under the mortgage dated April 1, 1875; issued, \$27,674,000; dated November 1, 1893; due November 1, 1937; outstanding \$27,579,000. Interest, 5 per cent., gold, payable May and November. Trustee, Central Trust Company of New York.

NOTE:—Bonds issued under the Stockton & Copperopolis R. R. Mortgage of January 1, 1875, Southern Pacific Branch Ry. Mortgage of November 24, 1886, and Southern Pacific R. R. Co. Mortgage of August 25, 1888 (now satisfied and discharged), to be retired out of the above-authorized issue of \$58,000,000. [1054]

Northern Railway First Mortgage Gold Bonds of 1877; authorized, \$6,300,000; issued and outstanding, \$5,156,000; dated January 1, 1877; due January 1, 1907. Interest, 6 per cent., gold, payable January and July. Trustees, Eugene Kelly and Henry B. Laidlaw, both of the City of New York.

Northern Railway First Mortgage Gold Bonds of 1888; authorized, \$21,000,000; issued and outstanding, \$4,751,000; dated October 1, 1888; due October 1, 1938. Interest, 5 per cent., gold, payable April and October. Trustee, Union Trust Company of New York.

Northern California Railway First Mortgage Gold Bonds: authorized, \$1,100,000; issued and out-

standing, \$1,074,000; dated November 1, 1889; due November 1, 1929. Interest 5 per cent., gold, payable June and December. Trustee, California Safe Deposit & Trusts Co., of San Francisco.

California Pacific R. R. First Mortgage Gold Bonds: authorized and issued, \$2,250,000; outstanding, \$2,232,000; dated January 1, 1867; due January 1, 1912. Interest,  $4\frac{1}{2}$  per cent., gold, payable January and July. Trustees, Jas. O'B. Gunn and Chas. E. Green, both of the City of San Francisco.

California Pacific R. R. Second Mortgage Gold Bonds: authorized and issued, \$1,600,000; outstanding, \$1,595,000; dated August 9, 1871; due January 1, 1911. Interest  $4\frac{1}{2}$  per cent., gold, payable January and July. Trustees, Jas. O'B. Gunn and Chas. E. Green, both of the City of San Francisco, Cal. [1055]

(42)

California Pacific R. R. Third Mortgage Gold Bonds: authorized, \$2,000,000; issued, and outstanding, \$1,998,500; dated July 1, 1875; due July 1, 1905. Interest, 6 per cent., gold, payable January and July. Trustee, Stephen T. Gage, of the City of San Francisco, Cal.

California Pacific R. R. Third Mortgage Gold Bonds: authorized, issued, and outstanding, \$1,000,000; dated July 1, 1875; due July 1, 1905. Interest, 3 per cent., gold, payable January and July. Trustee, Stephen T. Gage, of the City of San Francisco, Cal.

Southern Pacific R. R. (of Arizona) First Mortgage Gold Bonds: authorized, issued and outstand-

ing, \$10,000,000; Series A, amounting to \$6,000,000; dated March 1, 1879; due March 1, 1909, and Series B, \$4,000,000; dated March 1, 1880; due March 1, 1910. Interest, 6 per cent., gold, payable January and July. Trustees, I. W. Hellman and Union Trust Company, both of the city of San Francisco, Cal.

Southern Pacific R. R. of New Mexico First Mortgage Gold Bonds: authorized, \$5,000,000; issued and outstanding, \$4,180,000; dated January 1, 1881; due January 1, 1911. Interest, 6 per cent., gold, payable January and July. Trustees, I. W. Hellman and Union Trust Company, both of the City of San Francisco, Cal.

DIRECTORS (11), elected April 14, 1903:

E. H. Harriman, Arden, N. Y.

Alvinza Hayward, San Francisco.

I. W. Hellman, San Francisco.

Wm. F. Herrin, San Francisco. [1056]

Homer S. King, San Francisco.

J. Kruttschnitt, San Francisco.

J. S. Slauson, Los Angeles.

N. T. Smith, San Francisco.

Wm. Sproule, San Francisco.

J. L. Willeutt, San Francisco.

Jas. K. Wilson, San Francisco.

OFFICERS, elected April 14, 1903:

E. H. Harriman, President, Arden, N. Y.

Vice-President.

J. Kruttschnitt, Second Vice-President, San Francisco.

N. T. Smith, Treasurer, San Francisco.

A. K. Van Deventer, Assistant Treasurer, New York.

J. L. Willeutt, Secretary, San Francisco.

Alex. Millar, Assistant Secretary, New York.

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Alex. Millar, Transfer Agent for Bonds, New York.

Chas. P. Lincoln, Transfer Agent for Bonds, San Francisco.

Jos. Hellen and O. C. Kahn, New York, are Acting Transfer Agents for Bonds of S. P. R. R. Cos. of California and of New Mexico.

From Manual No. 3, for the year 1904, marked Plaintiff's Exhibit "K K K", the title page and index and such matter as appears on pages 22, 31, 35, 37, 38, 39, 40, 43, 44 and 45, which I will read into the record as follows: [1057]

SOUTHERN PACIFIC and AUXILIARY  
COMPANIES.

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Manual No. 3—July 1, 1904.

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Notice: Officers receiving this volume will confer a favor on the undersigned by giving him early notice of errors noted, or changes necessary, in the following pages.

Alex Millar, Secretary.

(Secretary's Files.)

SOUTHERN PACIFIC and AUXILIARY  
COMPANIES.

Manual No. 3—1904.

of

Annual Meetings, Directors, Officers, Capital  
Stock, Funded Debt, Etc.

July 1, 1904.

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(22)

## KERN TRADING &amp; OIL CO.

Incorporated, California, May 22, 1903, for 50 years.

ANNUAL MEETING may be held at San Francisco on last Saturday in May. Notice to be published in one or more papers in the City and County of San Francisco, as the Directors may determine, at least ten days previously, or to be given in writing by the President to each Stockholder personally.

Meetings of Directors, whenever necessary, on call of President.

No specification for close of fiscal years.

**CAPITAL STOCK:** authorized and issued, \$1,-000,000. Shares \$100 each.

**DIRECTORS** (5) elected June 22, 1904:

E. T. Dumble, San Francisco.

J. E. Foulds, Berkeley.

C. H. Markham, San Francisco.

J. H. Wallace, San Francisco.

J. L. Wilcutt, San Francisco.

**OFFICERS**, elected June 23, 1904:

C. H. Markham, President, San Francisco.

E. T. Dumble, Vice-President, Berkeley.

J. L. Wilcutt, Secretary, San Francisco.

N. T. Smith, Treasurer, San Francisco.

(31)

**RIO BRAVO OIL CO.** [1060]

Incorporated, Texas, March 3, 1903, for 50 years.

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**ANNUAL MEETING**, Houston, Texas, second Monday in January.

Written notice to be given at least five days previously.

Meetings of Directors can be held at any time.

Fiscal year closes June 30.

**CAPITAL STOCK:** authorized \$1,000,000. Shares \$100 each.

**DIRECTORS** (5), elected January 12, 1904:

C. C. Barry, Houston.

E. T. Dumble, Houston.

C. H. Markham, San Francisco.

C. B. Seger, Houston.

W. G. Van Vleck, Houston.

OFFICERS, elected March 13, 1903:

- C. H. Markham, President, San Francisco.
- E. T. Dumble, Vice-President, Houston.
- C. B. Seger, Secretary, Houston.
- B. C. Cushman, Treasurer, Houston.

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. . . . .

### CONTROLLED PROPERTIES.

The Southern Pacific Company is the principal owner of the capital stock of the following companies, and operates them under leases to it: Central Pacific Railway, Oregon and California Railroad, Southern Pacific Railroad, South Pacific Coast Railway.

The Southern Pacific is also the principal owner of the capital stock of the following companies, which are operated [1061] by their own organizations, viz: Galveston, Harrisburg & San Antonio Railway, Texas and New Orleans Railroad, Louisiana Western Railroad, Maricopa and Phoenix and Salt River Valley Railroad, New York, Texas & Mexican Railway, Houston & Texas Central Railroad, Galveston, Houston and Northern Railroad, Carson & Colorado Railway, Houston East & West Texas Railway, Houston & Shreveport Railroad, Gila Valley, Globe & Northern Railway; owner of half the stock of the Sunset Railroad Co.; and it operates under leases from the Atchison, Topeka & Santa Fe the lines of the New Mexico & Arizona Railroad and the Sonora Railway Companies.

The Morgan's Louisiana & Texas Railway &

Steamship Co. is the principal owner of stocks of the following companies, which are operated under their own organizations, viz: Gulf, Western Texas & Pacific Railway, Direct Navigation Co., Iberia & Vermillion Railroad.

In March, 1902, the Southern Pacific Railroad of California, the Southern Pacific Railroad of Arizona and the Southern Pacific Railroad of New Mexico were consolidated into a new company, the Southern Pacific Railroad Co.

The Southern Pacific Company also operates steamship lines from New York to New Orleans, La., and Galveston, Tex., New Orleans to Havana, and to Bluefields, Nicaragua, as well as ferry, harbor and river lines in Louisiana, Texas and California, aggregating about 4,906 miles, and owns 21 ocean steamers. In 1900 the company acquired a controlling interest in the stock of the Pacific Mail Steamship Co., and in 1902 purchased the property of the Cromwell Steamship Co.

The Mojave Division of the Southern Pacific Railroad, 242 [1062] miles, is leased to the Atchison, Topeka & Santa Fe Railway Company, until 1979, at an annual rental of \$218,133.

DIRECTORS (15), elected April 6, 1904:

Wm. D. Cornish, New York.

Maxwell Evarts, New York.

George J. Gould, Lakewood, N. J.

E. H. Harriman, Arden, N. Y.

Marvin Hughitt, Chicago.

H. E. Huntington, San Francisco.

James H. Hyde, New York.  
Otto H. Kahn, Morristown, N. J.  
D. O. Mills, New York.  
Winslow S. Pierce, New York.  
Jacob H. Schiff, New York.  
James Speyer, New York.  
James Stillman, New York.  
Charles H. Tweed, New York.  
A. K. Van Deventer, New York.

(37)

EXECUTIVE COMMITTEE (5), elected June 9,  
1904:

E. H. Harriman, Chairman.  
George J. Gould.  
Jacob H. Schiff.  
James Stillman.  
Charles H. Tweed.

#### OFFICERS.

EXECUTIVE DEPARTMENT, elected June 9,  
1904:

E. H. Harriman, President, Arden, N. Y.  
Wm. D. Cornish, Vice-President (June 24), New  
York. [1063]  
J. C. Stubbs, Vice-President, Chicago.  
J. Kruttschnitt, Vice-President, Chicago.  
C. H. Markham, Vice-President, San Francisco.  
Alex. Millar, Clerk and Secretary, New York.  
Joseph Hellen, Asst. Clerk and Asst. Secretary,  
New York.  
John B. Weaver, Assistant Clerk, Beechmont, Ky.  
N. T. Smith, Treasurer, San Francisco.

A. K. Van Deventer, Assistant Treasurer, New York.

Geo. M. Thornton, Cashier (March 31, 1904), New York.

---

Alex. Millar, Transfer Agent, New York.

Otto C. Kahn, Asst. Transfer Agent, New York.

A. M. Waldron, Asst. Transfer Agent for Stock, New York.

Union Trust Co., Registrar of Transfers, New York.

**LEGAL DEPARTMENT:**

New York.

R. S. Lovett, Counsel.

Maxwell Evarts, Attorney.

San Francisco.

W. F. Herrin, Chief Counsel.

J. E. Foulds, Attorney.

D. R. Sessions, Claims Attorney.

E. B. Ryan, Tax Attorney.

Portland.

W. W. Bretherton, Right of Way, Tax, and Claim Agent.

**ACCOUNTING DEPARTMENT:**

Wm. Mahl, Comptroller, New York.

H. S. Bradt, Assistant Comptroller, New York.

Erastus Young, General Auditor, Omaha. [1064]

G. T. Klink, Auditor, San Francisco.

C. J. Wilder, Assistant Auditor, San Francisco.

D. W. Horsburg, Freight Auditor, San Francisco.

H. S. Lincoln, Assistant Freight Auditor, San Francisco.

E. E. Holton, Ticket Auditor, San Francisco.

(38)

**TRAFFIC DEPARTMENT:**

J. C. Stubbs, Traffic Director, Chicago.

B. Campbell, Asst. Traffic Director, Chicago.

E. O. McCormick, Asst. Traffic Director, Chicago.

Wm. Sproule, Freight Traffic Manager, San Francisco.

H. A. Jones, Freight Traffic Mgr., Atlantic System, New Orleans.

G. W. Luce, General Freight Agent, San Francisco.

S. N. Bostwick, Asst. General Freight Agent, San Francisco.

Thos. A. Graham, Asst. General Freight Agent, San Francisco.

W. H. Masters, Traffic Manager, New Orleans.

Chas. S. Fay, General Freight Agent, New Orleans.

W. E. Coman, General Freight and Passenger Agent, Lines in Oregon, Portland.

G. A. Parkyns, Asst. Gen. Freight and Pass. Agent, Los Angeles.

Chas. S. Fee, Passenger Traffic Manager, San Francisco.

T. H. Goodman, General Passenger Agent, San Francisco.

R. A. Donaldson, Asst. Gen. Passenger Agent, San Francisco.

Jas. Horsburg, Jr., Asst. Gen. Passenger Agent, San Francisco.

H. R. Judah, Asst. Gen. Passenger Agent, San Francisco.

F. E. Batturs, Asst. Gen. Pass. and Ticket Agent, New Orleans.

E. B. Carson, General Baggage Agent, San Francisco. [1065]

J. B. Richardson, General Agent, New Orleans.

TRANSPORTATION DEPARTMENT:

J. Kruttschnitt, Director and Maint. and Operation, Chicago.

B. A. Worthington, Assistant Director of Maintenance and Operation, Chicago.

C. H. Markham, General Manager, Lines between El Paso, Reno and Ashland, San Francisco.

E. E. Calvin, General Manager, Oregon Lines, Portland.

W. H. Bancroft, Gen. Mgr., Lines East of Reno, Salt Lake City.

Jas. Alger, Manager, San Francisco.

J. P. O'Brien, Gen. Supt., Oregon Lines, Portland.

Geo. F. Richardson, Supt. of Transportation, San Francisco.

J. A. Naugle, Asst. Gen. Mgr., Sonora Ry., Guaymas, Mex.

J. H. Wallace, Engineer, Maintenance of Way, San Francisco.

A. E. Roome, Superintendent of Telegraph, San Francisco.

H. J. Small, General Supt. Motive Power, San Francisco.

W. C. Farrington, Mgr. Atlantic Coast S. S. Lines, New York.

**ENGINEERING DEPARTMENT:**

Wm. Hood, Chief Engineer, San Francisco.

(39)

**LAND DEPARTMENT:**

Wm. H. Mills, Land Agent, C. P. R. R., San Francisco.

Chas. W. Eberlein, Acting Land Agt., S. P. R. R., San Francisco.

Geo. H. Andrews, Acting Land Agent, Portland.

C. C. Gibbs, Land Commissioner, San Antonio.

**SUPPLY DEPARTMENT:**

W. V. S. Thorne, Director of Purchases, New York.

R. Stevenson, Manager, Purchases and Supplies, San Francisco.

H. W. Ellicott, Asst. Mgr., Purchases and Supplies, San Francisco. [1066]

**MEDICAL DEPARTMENT:**

F. K. Ainsworth, Chief Surgeon and Hospital Manager, San Francisco.

(40)

**SOUTHERN PACIFIC RAILROAD COMPANY.**

Incorporated, California, Arizona, and New Mexico,  
March 10, 1902, for 50 years.

. . . . .

(43)

FUNDED DEBT.

First Mortgage Gold Bonds of S. P. R. R. Co., of California of 1875, Series A to G, inclusive; authorized, \$46,000,000; issued \$39,285,000; outstanding, \$29,011,000.

- |    |  |              |
|----|--|--------------|
| A. | Authorized and issued, \$15,000,-<br>000; dated April 1, 1875; due<br>April 1, 1905; outstanding. . . .    | \$12,449,000 |
| B. | Authorized and issued, \$5,000,000;<br>dated October 1, 1875; due Oct.<br>1, 1905; outstanding. . . . .    | 4,045,000    |
| C. | Authorized and issued, \$5,000,000;<br>dated October 1, 1876; due Oc-<br>tober 1, 1906; outstanding. . . . | 3,766,000    |
| D. | Authorized and issued, \$5,000,000;<br>dated October 1, 1876; due Oc-<br>tober 1, 1906; outstanding. . . . | 3,635,000    |
| E. | Authorized and issued, \$5,000,000;<br>dated April 1, 1882; due April 1,<br>1912; outstanding. . . . .     | 3,152,000    |
| F. | Authorized, \$5,000,000; issued<br>\$4,285,000; dated April 1, 1882;<br>due April 1, 1912; outstanding     | 1,964,000    |
| G. | Authorized, \$6,000,000; never is-<br>sued.  |              |

Interest, 6 per cent., gold, payable April and Octo-  
ber. Trustees, D. O. Mills, New York, and Homer S.  
King, San Francisco. [1067]

(44)

Southern Pacific Branch Railway First Mortgage

Gold Bonds; authorized, \$9,000,000; issued \$3,578,000, dated April 1, 1887; due April 1, 1937; outstanding, \$3,533,000. Interest, 6 per cent., gold, payable April and October. Trustee, Union Trust Company of San Francisco.

Stockton & Copperopolis R. R. First Mortgage Gold Bonds; authorized, issued and outstanding, \$500,000; dated January 1, 1875; due January 1, 1905. Interest 5 per cent., gold, payable January and July. Trustee, J. L. Wilcutt, San Francisco.

Southern Pacific R. R. of California, First Consolidated Mortgage Gold Bonds of 1893; authorized, \$58,000,000, and such additional amount of bonds as may be sufficient to retire, bond for bond, outstanding first mortgage bonds of the S. P. R. R. Co., issued under the mortgage dated April 1, 1875; issued, \$28,766,000; dated November 1, 1893; due November 1, 1937; outstanding, \$28,652,000. Interest, 5 per cent., gold, payable May and November. Trustee, Central Trust Company of New York.

NOTE:—Bonds issued under the Stockton & Copperopolis R. R. Mortgage of January 1, 1875, Southern Pacific Branch Ry. Mortgage of November 24, 1886, and Southern Pacific R. R. Co. Mortgage of August 25, 1888 (now satisfied and discharged), to be retired out of the above authorized issue of \$58,000,000.

Northern Railway First Mortgage Gold Bonds of 1877: authorized, \$6,300,000; issued and outstanding, \$5,156,000; dated January 1, 1877; due January 1, 1907. Interest, 6 per cent., gold, payable January

and July. Trustees, Eugene Kelly and Henry B. Laidlaw, both of the City of New York.

Northern Railway First Mortgage Gold Bonds of 1888: author[1068]ized, \$21,000,000; issued and outstanding \$4,751,000; dated October 1, 1888; due October 1, 1938. Interest, 5 per cent., gold, payable April and October. Trustee, Union Trust Company of New York.

Northern California Railway First Mortgage Gold Bonds: authorized \$1,100,000; issued and outstanding, \$1,074,000; dated November 1, 1889; due November 1, 1929. Interest, 5 per cent., gold, payable June and December. Trustee, California Safe Deposit & Trust Co., of San Francisco.

California Pacific R. R. First Mortgage Gold Bonds: authorized and issued, \$2,250,000; outstanding, \$2,232,000; dated January 1, 1867; due January 1, 1912. Interest,  $4\frac{1}{2}$  per cent., gold, payable January and July. Trustees, Jas. O'B. Gunn and Chas. E. Green, both of the City of San Francisco, Cal.

California Pacific R. R. Second Mortgage Gold Bonds: authorized and issued, \$1,600,000; outstanding, \$1,595,000; dated August 9, 1871; due January 1, 1911. Interest  $4\frac{1}{2}$  per cent., gold, payable January and July. Trustees, Jas. O'B. Gunn and Chas. E. Green, both of the City of San Francisco, Cal.

(45)

California Pacific R. R. Third Mortgage Gold Bonds: authorized, \$2,000,000; issued and outstanding, \$1,998,500; dated July 1, 1875; due July 1, 1905. Interest, 6 per cent., gold, payable January and July.

Trustee, Stephen T. Gage of the City of San Francisco, Cal.

California Pacific R. R. Third Mortgage Gold Bonds: authorized, issued, and outstanding, \$1,000,000; dated July 1, 1875; due July 1, 1905. Interest, 3 per cent., gold, payable January and July. Trustee, Stephen T. Gage of the City of San Francisco, Cal. [1069]

Southern Pacific R. R. (of Arizona) First Mortgage Gold Bonds: authorized, issued and outstanding, \$10,000,000; Series A, amounting to \$6,000,000; dated March 1, 1879; due March 1, 1909, and Series B, \$4,000,000; dated March 1, 1880; due March 1, 1910. Interest, 6 per cent., gold, payable January and July. Trustees, I. W. Hellman and Union Trust Company, both of the City of San Francisco, Cal.

Southern Pacific R. R. of New Mexico First Mortgage Gold Bonds: authorized, \$5,000,000; issued and outstanding, \$4,180,000; dated January 1, 1881; due January 1, 1911. Interest 6 per cent., gold, payable January and July. Trustees, I. W. Hellman and Union Trust Company, both of the City of San Francisco, Cal.

DIRECTORS (11), elected April 12, 1904:

F. K. Ainsworth (May 19), San Francisco.

E. H. Harriman, Arden, N. Y.

I. W. Hellman, San Francisco.

Wm. F. Herrin, San Francisco.

Homer S. King, San Francisco.

C. H. Markham (May 12), San Francisco.

J. S. Slauson, Los Angeles.

N. T. Smith, San Francisco.

Wm. Sproule, San Francisco.

J. L. Willcutt, San Francisco.

Jas. K. Wilson, San Francisco.

OFFICERS, elected April 14, 1904:

E. H. Harriman, President, Arden, N. Y.

—————, Vice-President.

C. H. Markham, Second Vice-President (May 19), San Francisco [1070]

N. T. Smith, Treasurer, San Francisco.

A. K. Van Deventer, Assistant Treasurer, New York.

J. L. Willcutt, Secretary, San Francisco.

Alex. Millar, Assistant Secretary, New York.

Alex. Millar, Transfer Agent, New York.

Chas. P. Lincoln, Transfer Agent for Bonds, San Francisco.

Joseph Hellen and O. C. Kahn, New York, are Acting Transfer Agents for Bonds of S. P. R. R. Cos. of California and of New Mexico.

From Manual No. 4, of the year 1905, marked Plaintiff's Exhibit "L L L," the title page, index, and such matter as appears on pages 24, 40, 41, 42, 43, 44, 45, 48, 49 and 50, with such emendations and corrections as appear therein in red ink, which I will read into the record as follows:

**SOUTHERN PACIFIC and AUXILIARY COMPANIES.**

—oOo—

Manual No. 4—July 1, 1905.

—oOo—

Notice:—Officers receiving this volume will confer

a favor on the undersigned by giving him early notice of errors noted, or changes necessary, in the following pages.

Alex. Millar, Secretary.

(Secretary's Files)

**SOUTHERN PACIFIC and AUXILIARY COMPANIES.**

Manual No. 4—1905

of [1071]

Annual Meetings, Directors, Officers, Capital Stock, Funded Debt, Etc.

July 1, 1905.

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**KERN TRADING & OIL CO.**

Incorporated, California, May 22, 1903, for 50 years.

ANNUAL MEETING may be held at San Francisco on last Saturday in May. Notice to be published in one or more papers in the City and County of San Francisco, as the Directors may determine, at least ten days previously, or to be given in writing by the President to each stockholder personally.

Meetings of Directors, whenever necessary, on call of President. [1073]

No specification for close of fiscal year.

CAPITAL STOCK: authorized and issued, \$1,000,000. Shares \$100 each.

DIRECTORS (5), elected May 29, 1905:

E. E. Calvin, San Francisco.

E. T. Dumble, San Francisco.

J. E. Foulds, Berkeley.

J. H. Wallace, San Francisco.

J. L. Wilcutt, San Francisco.

OFFICERS, elected May 29, 1905:

E. E. Calvin, President, San Francisco.

E. T. Dumble, Vice-President, Berkeley.

J. L. Wilcutt, Secretary, San Francisco.

N. T. Smith, Treasurer, San Francisco.

(40)

**SOUTHERN PACIFIC COMPANY.**

Incorporated by Act of General Assembly of the State of Kentucky approved March 17, 1884, in perpetuity, for the purpose of unifying in management

lines of railroad extending from New Orleans, La., to San Francisco, Cal., to Portland, Ore., and to Ogden, Utah.

. . . . .

### CONTROLLED PROPERTIES

The Southern Pacific Company is the principal owner of the capital stock of the following companies, and operates them under leases to it: Central Pacific Railway, Oregon and California Railroad, Southern Pacific Railroad, South Pacific Coast Railway. [1074]

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The Southern Pacific is also the principal owner of the capital stock of the following companies, which are operated by their own organizations, viz. Galveston, Harrisburg & San Antonio Railway, Texas and New Orleans Railroad, Louisiana Western Railroad, Maricopa and Phoenix and Salt River Valley Railroad, New York Texas and Mexican Railway, Houston & Texas Central Railroad, Galveston Houston and Northern Railroad, Carson & Colorado Railway, Houston East and West Texas Railway, Houston & Shreveport Railroad, Gila Valley Globe & Northern Railway, Pacific Mail Steamship, Morgan's Louisiana & Texas Railroad & Steamship; and owner of half the stock of the Sunset Railroad Co.; and it operates under leases from the Atchison, Topeka & Santa Fe the lines of the New Mexico & Arizona Railroad and the Sonora Railway Companies.

The Morgan's Louisiana & Texas Railroad & Steamship Co. is the principal owner of stocks of the

following companies, which are operated under their own organizations, viz: Gulf Western Texas & Pacific Railway, Direct Navigation Co., Iberia & Vermilion Railroad.

In March, 1902, the Southern Pacific Railroad of California, the Southern Pacific Railroad of Arizona and the Southern Pacific Railroad of New Mexico were consolidated into a new company, the Southern Pacific Railroad Co.

The Southern Pacific Co. also operates steamship lines from New York to New Orleans, La., and Galveston, Texas, and owns 14 ocean steamers. The Pacific Mail Steamship Co. operates lines from San Francisco to ports in Japan, China, and South and Central America, and owns 16 ocean steamers. The Morgan's Louisiana & Texas Railroad & Steamship Co. operates a steam[1075]ship line from New Orleans to Havana, and owns 4 ocean steamers. Companies controlled by the Southern Pacific Co. also operate ferry, harbor, and river lines in Louisiana, Texas, and California, aggregating about 5,000 miles.

The Mojave Division of the Southern Pacific Railroad, 242 miles, is leased to the Atchison, Topeka & Santa Fe Railway Company, until 1979, at an annual rental of \$218,133.

**DIRECTORS** (15), elected April 5, 1905:

Wm. D. Cornish, New York.

Maxwell Evarts (June 20, 1905), New York.

E. H. Harriman, Arden, N. Y.

Marvin Hughitt, Chicago.

H. E. Huntington, San Francisco.

James H. Hyde, New York.

Otto H. Kahn, Morristown, N. J.

R. S. Lovett (June 20, 1905), New York.

Clarence H. Mackay, New York.

D. O. Mills, New York.

M. L. Schiff (April 13, 1905), New York.

James Speyer, New York.

James Stillman, New York.

Charles H. Tweed, New York.

David Willcox, New York.

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EXECUTIVE COMMITTEE (5), elected April 13, 1905:

E. H. Harriman, Chairman.

R. S. Lovett (June 20, 1905).

M. L. Schiff.

James Stillman.

Charles H. Tweed. [1076]

#### OFFICERS

EXECUTIVE DEPARTMENT, elected April 13, 1905:

E. H. Harriman, President, Arden, N. Y.

Wm. D. Cornish, Vice-President, New York.

J. C. Stubbs, Vice-President, Chicago.

J. Kruttschnitt, Vice-President, Chicago.

E. E. Calvin, Vice-President, San Francisco.

Alex. Millar, Clerk and Secretary, New York.

Joseph Hellen, Asst. Clerk and Asst. Secretary, New York.

John B. Weaver, Assistant Clerk, Beechmont, Ky.

1392      *The Southern Pacific Co. et al. vs.*

C. B. Seger, Assistant Secretary (March 16, 1905), San Francisco.

N. T. Smith, Treasurer, San Francisco.

A. K. Van Deventer, Assistant Treasurer, New York.

Geo. M. Thornton, Cashier (March 31, 1904), New York.

---

Alex. Millar, Transfer Agent, New York.

Otto C. Kahn, Asst. Transfer Agent, New York.

W. H. James, Asst. Transfer Agent for Stock, New York.

H. B. Taylor, Asst. Transfer Agent for Stock, New York.

Union Trust Co., Registrar of Transfers of Common Stock, New York.

Guaranty Trust Co., Registrar of Transfers of Preferred Stock, New York.

LEGAL DEPARTMENT:

New York.

R. S. Lovett, Counsel.

Maxwell Evarts, Attorney.

San Francisco.

W. F. Herrin, Chief Counsel. [1077]

P. F. Dunne, General Attorney.

J. E. Foulds, Attorney.

D. R. Sessions, Claims Attorney.

E. B. Ryan, Tax Attorney.

Portland.

J. W. Morrow, Right of Way and Tax Agent.

(43)

ACCOUNTING DEPARTMENT:

Wm. Mahl, Comptroller, New York.

H. S. Bradt, Assistant Comptroller, New York.

Erastus Young, General Auditor, Omaha.

C. B. Seger, Auditor, San Francisco.

C. J. Wilder, Assistant Auditor, San Francisco.

D. W. Horsburgh, Freight Auditor, San Francisco.

H. S. Lincoln, Assistant Freight Auditor, San Francisco.

E. E. Holton, Ticket Auditor, San Francisco.

TRAFFIC DEPARTMENT:

J. C. Stubbs, Traffic Director, Chicago.

E. O. McCormick, Asst. Traffic Director, Chicago.

P. C. Stohr, Asst. Traffic Director, Chicago.

Wm. Sproule, Freight Traffic Manager, San Francisco.

H. A. Jones, Freight Traffic Mgr., Atlantic System, New Orleans.

G. W. Luce, General Freight Agent, San Francisco.

S. N. Bostwick, Asst. General Freight Agent, San Francisco.

Thos. A. Graham, Asst. General Freight Agent, San Francisco.

Chas. S. Fay, General Freight Agent, New Orleans.

W. E. Coman, General Freight and Passenger Agent, Lines in Oregon, Portland.

G. A. Parkyns, Asst. Gen. Freight and Pass. Agent, Los Angeles. [1078]

Chas. S. Fee, Passenger Traffic Manager, San Francisco.

T. H. Goodman, General Passenger Agent, San Francisco.

R. A. Donaldson, Asst. Gen. Passenger Agent, San Francisco.

Jas. Horsburg, Jr., Asst. Gen. Passenger Agent, San Francisco.

H. R. Judah, Asst. Gen. Passenger Agent, San Francisco.

F. E. Batturs, Asst. Gen. Pass. and Ticket Agent, New Orleans.

E. B. Carson, General Baggage Agent, San Francisco.

J. B. Richardson, General Agent, New Orleans.

**TRANSPORTATION DEPARTMENT:**

J. Kruttschnitt, Director of Maint. and Operation, Chicago.

W. B. Scott, Assistant Director of Maintenance and Operation, Chicago.

E. E. Calvin, General Manager, Pacific System, San Francisco.

J. P. O'Brien, General Manager, Oregon Lines, Portland.

W. H. Bancroft, Gen. Mgr., Lines East of Reno, Salt Lake City.

W. S. Palmer, Gen. Supt., Northern District, San Francisco.

R. H. Ingram, Gen. Supt., Southern District, Los Angeles.

M. J. Buckley, Gen. Supt., Oregon Lines, Portland.

Geo. F. Richardson, Supt. of Transportation, San Francisco.

J. A. Naugle, Asst. Gen. Mgr., Sonora Ry., Guaymas, Mex.

J. H. Wallace, Engineer, Maintenance of Way, San Francisco.

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A. E. Roome, Superintendent Telegraph, San Francisco.

H. J. Small, General Supt. Motive Power, San Francisco.

C. W. Jungen, Mgr. Atlantic Coast S. S. Lines, New York.

**ENGINEERING DEPARTMENT:**

Wm. Hood, Chief Engineer, San Francisco.

G. W. Boschke, Chief Engineer, Lines in Oregon, Portland. [1079]

**LAND DEPARTMENT:**

Wm. H. Mills, Land Agent, C. P. R. R., San Francisco.

Chas. W. Eberlein, Acting Land Agt., S. P. R. R. and O. & C. R. R., San Francisco.

C. C. Gibbs, Land Commissioner, San Antonio.

**SUPPLY DEPARTMENT:**

W. V. S. Thorne, Director of Purchases, New York.

I. O. Rhodes, Gen. Purchasing Agent, San Francisco.

H. W. Ellicott, Asst. Gen. Purchasing Agent, San Francisco.

**MEDICAL DEPARTMENT:**

F. K. Ainsworth, Chief Surgeon and Hospital Manager, San Francisco.

(45)

**SOUTHERN PACIFIC RAILROAD COMPANY.**

Incorporated, California, Arizona, and New Mexico,  
March 10, 1902, for 50 years.

. . . . .

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**FUNDED DEBT.**

First Mortgage Gold Bonds of S. P. R. R. Co. of California, of 1875, Series A to G, inclusive; authorized, \$46,000,000; issued, \$39,285,000; outstanding, \$16,777,000.

- |    |   |           |
|----|---|-----------|
| A. | Authorized and issued, \$15,000,-<br>000; dated April 1, 1875; due<br>April 1, 1905; outstanding. . . . \$              | 330,000   |
| B. | Authorized and issued, \$5,000,000;<br>dated October 1, 1875; due Oc-<br>tober 1, 1905; outstanding<br>[1080] . . . . . | 3,930,000 |
| C. | Authorized and issued, \$5,000,000;<br>dated October 1, 1876; due Octo-<br>ber 1, 1906; outstanding. . . . .            | 3,766,000 |

- D. Authorized and issued, \$5,000,000;  
dated October 1, 1876; due Oc-  
tober 1, 1906; outstanding . . . . . 3,635,000
- E. Authorized and issued, \$5,000,000;  
dated April 1, 1882; due April  
1, 1912; outstanding . . . . . 3,152,000
- F. Authorized, \$5,000,000; issued  
\$4,285,000; dated April 1, 1882,  
due April 1, 1912; outstanding. 1,964,000
- G. Authorized, \$6,000,000; never is-  
sued.

Interest, 6 per cent., gold, payable April and Oc-  
tober. Trustees, D. O. Mills, New York, and Homer  
S. King, San Francisco.

Southern Pacific Branch Railway First Mortgage  
Gold Bonds; authorized, \$9,000,000; issued, \$3,578,-  
000; dated April 1, 1887; due April 1, 1937; outstand-  
ing \$3,533,000. Interest, 6 per cent., gold, payable  
April and October, Trustee, Union Trust Company  
of San Francisco.

(49)

Southern Pacific R. R. of California, First Con-  
solidated Mortgage Gold Bonds of 1893; authorized,  
\$58,000,000, and such additional amount of bonds as  
may be sufficient to retire, bond for bond, outstand-  
ing first mortgage bonds of the S. P. R. R. Co., issued  
under the mortgage dated April 1, 1875; issued \$28,-  
766,000; dated September 15, 1893; due November 1,  
1937; outstanding, \$27,824,000. Interest 5 per cent.,  
gold, payable May and November. Trustee, Central  
Trust Company of New York.

NOTE:—Bonds issued under the Stockton & Copperopolis R. R. Mortgage of January 1, 1875, Southern Pacific Branch Ry. Mortgage of November 24, 1886, and Southern Pacific R. R. Co., Mortgage of [1081] August 25, 1888 (now satisfied and discharged), to be retired out of the above authorized issue of \$58,000,000.

Northern Railway First Mortgage Gold Bonds of 1877; authorized, \$6,300,000; issued and outstanding, \$5,156,000; dated January 1, 1877; due January 1, 1907. Interest 6 per cent., gold, payable January and July. Trustees, Eugene Kelly and Henry B. Laidlaw, both of the City of New York.

Northern Railway First Mortgage Gold Bonds of 1888; authorized, \$21,000,000; issued and outstanding, \$4,751,000; dated October 1, 1888; due October 1, 1938. Interest, 5 per cent., gold, payable April and October. Trustee, Union Trust Company of New York.

Northern California Railway First Mortgage Gold Bonds; authorized, \$1,100,000; issued and outstanding, \$1,074,000; dated November 1, 1889; due November 1, 1929. Interest, 5 per cent., gold, payable June and December. Trustee, California Safe Deposit & Trust Co., of San Francisco.

California Pacific R. R. First Mortgage Gold Bonds; authorized and issued, \$2,250,000; outstanding, \$2,232,000; dated January 1, 1867; due January 1, 1912. Interest, 4½ per cent., gold, payable January and July. Trustees, Jas. O'B. Gunn and Chas. E. Green, both of the City of San Francisco, Cal.

California Pacific R. R. Second Mortgage Gold Bonds; authorized and issued, \$1,600,000; outstanding, \$1,595,000; dated August 9, 1871; due January 1, 1911. Interest  $4\frac{1}{2}$  per cent., gold, payable January and July. Trustees, Jas. O'B. Gunn and Chas. E. Green, both of the City of San Francisco, Cal.

California Pacific R. R. Third Mortgage Gold Bonds: [1082] authorized, \$2,000,000; issued and outstanding, \$1,924,000; dated July 1, 1875; due July 1, 1905. Interest, 6 per cent., gold, payable January and July. Trustee, Stephen T. Gage, of the City of San Francisco, Cal.

California Pacific R. R. Third Mortgage Gold Bonds: authorized, issued and outstanding, \$944,500; dated July 1, 1875; due July 1, 1905. Interest, 3 per cent., gold, payable January and July. Trustee, Stephen T. Gage, of the City of San Francisco, Cal.

(50)

Southern Pacific R. R. (of Arizona) First Mortgage Gold Bonds; authorized, issued and outstanding, \$10,000,000; Series A, amounting to \$6,000,000; dated March 1, 1879; due March 1, 1909; and Series B., \$4,000,000; dated March 1, 1880; due March 1, 1910. Interest, 6 per cent., gold, payable January and July. Trustees, I. W. Hellman and Union Trust Company, both of the City of San Francisco, Cal.

Southern Pacific R. R. of New Mexico First Mortgage Gold Bonds; authorized, \$5,000,000; issued and outstanding, \$4,180,000; dated January 1, 1881; due January 1, 1911. Interest, 6 per cent., gold, payable January and July. Trustees, I. W. Hellman and

Union Trust Company, both of the City of San Francisco, Cal.

Southern Pacific R. R. First Refunding Bond Temporary Certificates: Issued and outstanding, \$75,000,000. Interest, 4 per cent., January and July

DIRECTORS (11), elected April 10, 1906: [1083]

F. K. Ainsworth, San Francisco.

E. E. Calvin, San Francisco.

W. D. Cornish, New York.

I.W. Hellman, San Francisco.

W. F. Herrin, San Francisco.

Homer S. King, San Francisco.

Wm. Hood, San Francisco.

N. T. Smith, San Francisco.

H. A. Jones, San Francisco.

J. L. Willeutt, San Francisco.

Jas. K. Wilson, San Francisco.

OFFICERS, elected April 2, 1906:

W. D. Cornish, President, New York.

E. E. Calvin, Vice-President, San Francisco.

W. T. Smith, Second Vice-Pres., San Francisco.

N. T. Smith, Treasurer, San Francisco.

A. K. Van Deventer, Assistant Treasurer, New York.

J. L. Wilcutt, Secretary, San Francisco.

Jos. Hellen, Assistant Secretary, New York.

C. P. Lincoln, Asst. Secretary, San Francisco.

Alex. Millar, Transfer Agent, New York.

Chas. P. Lincoln, Transfer Agent for Bonds, San Francisco.

Joseph Hellen and O. C. Kahn, New York, are act-

ing Transfer Agents for Bonds of S. P. R. R. Cos.  
of California and New Mexico.

. . . . .  
From Manual No. 5, for the year 1906, marked  
Plaintiff's Exhibit "M M M," the title page and  
index and such matter as appears on pages 23, 33, 38,  
39, 40, 41, 46, 47 and 48, with [1084] such emendations  
and corrections as have been made therein in red ink,  
which I will read into the record as follows:

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SOUTHERN PACIFIC and AUXILIARY COM-  
PANIES.

—oOo—

Manual No. 5—July 1, 1906.

—oOo—

*Notice:*—Officers receiving this volume will confer  
a favor on the undersigned by giving him early notice  
of errors noted, or changes necessary, in the following  
pages.

Alex. Millar, Secretary.

(Secretary's Files.)

SOUTHERN PACIFIC and AUXILIARY COM-  
PANIES.

Manual No. 5—1906.

of

Annual Meetings, Directors, Officers, Capital Stock,  
Funded Debt, Etc.

July 1, 1906.

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Fallon Ry. Co.....	101½
Chico and Northern R. R. Co.....	41½

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**KERN TRADING & OIL CO.**

Incorporated, California, May 22, 1903, for 50 years.

ANNUAL MEETING at San Francisco, Cal.,  
First Wednesday in May at 11 A. M. \*

Meetings of Directors, 2nd Wednesday of each  
month at 12 o'clock noon.

No specification for close of fiscal year.

CAPITAL STOCK: authorized and issued,  
\$1,000,000. Shares \$100 each.

DIRECTORS (5), elected May 1, 1907:

E. E. Calvin, San Francisco.

E. T. Dumble, San Francisco.

J. E. Foulds, Berkeley. [1087]

J. H. Wallace, San Francisco.

J. L. Willeutt, San Francisco.

OFFICERS, elected May 29, 1905:

E. E. Calvin, President, San Francisco.

E. T. Dumble, Vice President, Berkeley.

J. L. Willeutt, Secretary, San Francisco.

C. H. Redington, Treasurer (June 12, 1907), San  
Francisco.

\* Two weeks notice shall be given either published  
daily for at least two weeks preceding the meeting  
or by written notice.

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#### RIO BRAVO OIL CO.

Incorporated, Texas, March 3, 1903, for 50 years.

ANNUAL MEETING, Houston, Texas, second  
Monday in January. Written notice to be given at  
least five days previously. Meetings of Directors  
can be held at any time.

Fiscal year closes June 30.

CAPITAL STOCK: authorized, \$1,000,000; shares \$100 each.

DIRECTORS (5), elected January 8, 1906:

- C. C. Barry, Houston.
- G. R. Cottingham, Houston.
- E. T. Dumble, Houston.
- Thornwell Fay, Houston.
- W. G. Van Vleck, Houston.

OFFICERS, elected January 8, 1906:

- Thornwell Fay, President, Houston.
- E. T. Dumble, Vice-President, Houston.
- G. R. Cottingham, Secretary, Houston.
- B. C. Cushman, Treasurer, Houston.

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### SOUTHERN PACIFIC COMPANY.

Incorporated by Act of General Assembly of the State of [1088] Kentucky, approved March 17, 1884, in perpetuity, for the purpose of unifying in management lines of railroad extending from New Orleans, La., to San Francisco, Cal., to Portland, Ore., and to Ogden, Utah.

. . . . .

### CONTROLLED PROPERTIES.

The Southern Pacific Company is the principal owner of the capital stock of the following companies, and operates them under leases to it: Central Pacific Railway, Oregon and California Railroad, Southern Pacific Railroad, South Pacific Coast Railway.

The Southern Pacific is also the principal owner of the capital stock of the following companies, which

are operated by their own organizations, viz. Galveston, Harrisburg & San Antonio Railway, Texas and New Orleans Railroad, Louisiana Western Railroad, Maricopa and Phoenix and Salt River Valley Railroad, Houston & Texas Central Railroad, Carson

(39)

& Colorado Railway, Houston East and West Texas Railway, Houston & Shreveport Railroad, Gila Valley Globe & Northern Railway, Pacific Mail Steamship, Morgan's Louisiana & Texas Railroad and Steamship; and owner of half the stock of the Sunset Railroad Co.; and it operates under leases from the Atchison, Topeka & Santa Fe the lines of the New Mexico & Arizona Railroad and the Sonora Railway companies.

The Morgan's Louisiana & Texas Railroad & Steamship Co. is the principal owner of stocks of the following companies, which are operated under their own organizations, viz: Direct Navigation Co., Iberia & Vermilion Railroad.

In March, 1902, the Southern Pacific Railroad of California, [1089] the Southern Pacific Railroad of Arizona and the Southern Pacific Railroad of New Mexico were consolidated into a new company, the Southern Pacific Railroad Co.

The Southern Pacific Co. also operates steamship lines from New Orleans to Havana, and from New York to New Orleans, and Galveston, Texas, and owns 16 ocean steamers. The Pacific Mail Steamship Co. operates lines from San Francisco to ports in Japan, China, and South and Central America, and

owns 16 ocean steamers. Companies controlled by the Southern Pacific Co. also operate ferry, harbor and river lines in Louisiana, Texas, and California, aggregating about 5,000 miles.

The Mojave Division of the Southern Pacific Railroad, 242 miles, is leased to the Atchison, Topeka & Santa Fe Railway Company, until 1979, at an annual rental of \$218,133.

**DIRECTORS (15), elected April 4, 1906:**

Wm. D. Cornish, New York.

Henry W. De Forest, Oyster Bay, N. Y.

Maxwell Evarts, New York.

Robert Goelet, Newport, R. I.

E. H. Harriman, Arden, N. Y.

Marvin Hughitt, Chicago.

H. E. Huntington, San Francisco.

R. S. Lovett, New York.

Clarence H. Mackay, New York.

D. O. Mills, New York.

Ogden Mills, Staatsburg, N. Y.

James Stillman, New York.

W. V. S. Thorne, New York.

A. K. Van Deventer, New York.

David Willcox, New York. [1090]

**EXECUTIVE COMMITTEE (5), elected April 10, 1906:**

E. H. Harriman, Chairman.

H. W. De Forest.

R. S. Lovett.

James Stillman.

David Willcox.

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## OFFICERS

EXECUTIVE DEPARTMENT, elected April 10,  
1906:

E. H. Harriman, President, Arden, N. Y.

Wm. D. Cornish, Vice-President, New York.

J. C. Stubbs, Vice-President, Chicago.

J. Kruttschnitt, Vice-President, Chicago.

E. E. Calvin, Vice-President, San Francisco.

Alex. Millar, Clerk and Secretary, New York.

Joseph Hellen, Asst. Clerk and Asst. Secretary,  
New York.

John B. Weaver, Assistant Clerk, Beechmont, Ky.

C. B. Seger, Assistant Secretary (March 16,  
1905), San Francisco.

N. T. Smith, Treasurer, San Francisco.

A. K. Van Deventer, Assistant Treasurer, New  
York.

---

Alex. Millar, Transfer Agent, New York.

Otto C. Kahn, Assistant Transfer Agent, New  
York.

W. H. James, Asst. Transfer Agent for Stock,  
New York.

H. B. Taylor, Asst. Transfer Agent for Stock,  
New York.

Geo. M. Thornton, Cashier, New York.

Union Trust Co., Registrar of Transfers of Com-  
mon Stock, New York. [1091]

Guaranty Trust Co., Registrar of Transfers of  
Preferred Stock, New York.

LEGAL DEPARTMENT:

New York.

R. S. Lovett, Counsel.

Maxwell Evarts, Attorney.

San Francisco.

W. F. Herrin, Chief Counsel.

P. F. Dunne, General Attorney.

J. E. Foulds, Attorney.

D. R. Sessions, Claims Attorney.

E. B. Ryan, Tax Attorney.

Portland.

J. W. Morrow, Right of Way and Tax Agent.

ACCOUNTING DEPARTMENT:

Wm. Mahl, Comptroller, New York.

H. S. Bradt, Assistant Comptroller, New York.

Erastus Young, General Auditor, Omaha.

C. B. Seger, Auditor, San Francisco.

C. J. Wilder, Auditor of Dining Car and Hotel  
Accounts, San Francisco.

D. W. Horsburgh, Freight Auditor, San Fran-  
cisco.

G. E. Bissonett, Auditor of Passenger Accounts,  
San Francisco.

(41)

TRAFFIC DEPARTMENT:

J. C. Stubbs, Traffic Director, Chicago.

E. O. McCormick, Asst. Traffic Director, Chicago.

P. C. Stohr, Asst. Traffic Director, Chicago.

Wm. Sproule, Freight Traffic Manager, San  
Francisco. [1092]

H. A. Jones, Freight Traffic Manager, Atlantic System, New Orleans.

G. W. Luce, General Freight Agent, San Francisco.

S. N. Bostwick, Asst. General Freight Agent, San Francisco.

J. G. Stubbs, Asst. General Freight Agent, San Francisco.

Chas. S. Fay, General Freight Agent, New Orleans.

W. E. Coman, General Freight and Passenger Agent, Lines in Oregon, Portland.

Thos. A. Graham, Assistant General Freight and Passenger Agent, Los Angeles.

Chas. S. Fee, Passenger Traffic Manager, San Francisco.

R. A. Donaldson, Asst. Gen. Passenger Agent, San Francisco.

Jas. Horsburgh, Jr., Acting Gen. Pass. Agent, San Francisco.

Paul Shoup, Asst. Gen. Passenger Agent, San Francisco.

H. R. Judah, Asst. Gen. Passenger Agent, San Francisco.

Wm. McMurray, Asst. Gen. Passenger Agent, Portland.

F. E. Batturs, Asst. Gen. Pass. and Ticket Agent, New Orleans.

E. B. Carson, General Baggage Agent, San Francisco.

General Agent, New Orleans.

**TRANSPORTATION DEPARTMENT:**

J. Kruttschnitt, Director of Maint. and Operation, Chicago.

W. B. Scott, Assistant Director of Maintenance and Operation, Chicago.

E. E. Calvin, General Manager, Pacific System, San Francisco.

J. P. O'Brien, General Manager, Oregon Lines, Portland.

W. H. Bancroft, Gen. Mgr., Line East of Reno, Salt Lake City.

W. S. Palmer, Gen. Supt., Northern District, San Francisco.

R. H. Ingram, Gen. Supt, Southern District, Los Angeles. [1093]

M. J. Buckley, Gen. Supt., Oregon Lines, Portland.

Geo. F. Richardson, Supt. of Transportation, San Francisco.

J. A. Naugle, Asst. Gen. Mgr., Sonora Ry., Guaymas, Mex.

A. E. Roome, Superintendent Telegraph, San Francisco.

H. J. Small, General Supt. Motive Power, San Francisco.

C. W. Jungen, Mgr. Atlantic Coast S. S. Lines, New York.

**ENGINEERING DEPARTMENT:**

Wm. Hood, Chief Engineer, San Francisco.

J. H. Wallace, Asst. Chief Engineer, San Francisco.

G. H. Boschke, Chief Engineer, Lines in Oregon, Portland.

John D. Isaacs, Consulting Engineer, San Francisco.

(42)

LAND DEPARTMENT:

Wm. H. Mills, Land Agent, C. P. R. R., San Francisco.

Chas. W. Eberlein, Acting Land Agt. S. P. R. R. and O. & C. R. R., San Francisco.

C. C. Gibbs, Land Commissioner, San Antonio.

SUPPLY DEPARTMENT:

W. V. S. Thorne, Director of Purchases, New York.

I. O. Rhoades, Gen. Purchasing Agent, San Francisco.

H. W. Ellicott, Asst. Gen. Purchasing Agent, San Francisco.

H. C. Pearce, General Storekeeper, San Francisco.

MISCELLANEOUS:

F. K. Ainsworth, Chief Surgeon and Hospital Manager, San Francisco.

D. Urquhart, Superintendent Commissary, San Francisco.

E. T. Dumble, Consulting Geologist, San Francisco.

G. L. King, Right of Way and Contract Agent, San Francisco. [1094]

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**SOUTHERN PACIFIC RAILROAD COMPANY.**  
Incorporated, California, Arizona, and New Mexico,  
March 10, 1902, for 50 years.

. . . . .

(46)

**FUNDED DEBT**

First Mortgage Gold Bonds of S. P. R. R. Co., of California, or 1875; Series A to G, inclusive; authorized \$46,000,000; issued, \$39,285,000; outstanding, \$5,116,000.

- E. Authorized and issued, \$5,000,000;  
dated April 1, 1882; due April 1,  
1912; outstanding . . . . . \$ 3,152,000
- F. Authorized, \$5,000,000; issued  
\$4,285,000; dated April 1, 1882;  
due April 1, 1912; outstanding 1,964,000
- G. Authorized, \$6,000,000; never is-  
sued.

Interest, 6 per cent., gold, payable April and October. Trustees, D. O. Mills, New York, and Homer S. King, San Francisco.

Southern Pacific Branch Railway First Mortgage Gold Bonds: authorized \$9,000,000; issued, \$3,578,000; dated April 1, 1887; due April 1, 1937; outstanding, \$3,533,000. Interest, 6 per cent., gold, payable April and October. Trustee, Union Trust Company of San Francisco.

(47)

Southern Pacific R. R. of California, First Consolidated Mortgage Gold Bonds of 1893; authorized,

\$58,000,000, [1095] issued, \$28,766,000; dated September 15, 1893; due November 1, 1937; outstanding, \$4,127,500. Interest, 5 per cent., gold, payable May and November. Trustee, Central Trust Company of New York.

Northern Railway First Mortgage Gold Bonds of 1888; authorized \$21,000,000; issued and outstanding, \$4,751,000; dated October 1, 1888; due October 1, 1938. Interest, 5 per cent., gold, payable April and October. Trustee, Union Trust Company of New York.

Northern California Railway First Mortgage Gold Bonds: authorized, \$1,100,000; issued and outstanding, \$1,074,000; dated November 1, 1899; due November 1, 1929. Interest, 5 per cent. gold, payable June and December. Trustee, California Safe Deposit & Trust Co., of San Francisco.

California Pacific R. R. First Mortgage Gold Bonds: authorized and issued, \$2,250,000; outstanding, \$2,232,000; dated [1096] January 1, 1867; due January 1, 1912. Interest  $4\frac{1}{2}$  per cent., gold, payable January and July. Trustees, Jas. O'B. Gunn and Chas. E. Green, both of the City of San Francisco, Cal.

California Pacific R. R. Second Mortgage Gold Bonds: authorized and issued, \$1,600,000; outstanding, \$1,595,000; dated August 9, 1871; due January 1, 1911. Interest,  $4\frac{1}{2}$  per cent., gold, payable January and July. Trustees, Jas. O'B. Gunn and Chas. E. Green, both of the City of San Francisco, Cal.

Southern Pacific R. R. (of Arizona) First Mort-

gage Gold Bonds; authorized, issued and outstanding, \$10,000,000; Series A, amounting to \$6,000,000; dated March 1, 1879; due March 1, 1909; and Series B, \$4,000,000; dated March 1, 1880; due March 1, 1910. Interest, 6 per cent., gold, payable January and July. Trustees, I. W. Hellman and Union Trust Company, both of the City of San Francisco, Cal.

(48)

Southern Pacific R. R. of New Mexico First Mortgage Gold Bonds: authorized, \$5,000,000; issued and outstanding, \$4,180,000; dated January 1, 1881; due January 1, 1911. Interest, 6 per cent., gold, payable January and July. Trustees, I. W. Hellman and Union Trust Company, both of the City of San Francisco, Cal.

Southern Pacific R. R. First Refunding Bonds: authorized, \$160,000,000; issued and outstanding, \$81,165,000; dated January 3, 1905; due January 1, 1955. Interest, 4 per cent., January and July. Trustee, The Equitable Trust Co. of New York.

DIRECTORS (11), elected April 9, 1907:

F. K. Ainsworth (Nov. 2, 1905), San Francisco.

E. E. Calvin, San Francisco. [1097]

Wm. D. Cornish (Aug. 30, 1905), New York.

I. W. Hellman (Sept. 21, 1905), San Francisco.

W. F. Herrin (Oct. 26, 1905), San Francisco.

Wm. Hood, San Francisco.

Homer S. King (Aug. 3, 1905), San Francisco.

C. H. Redington (June 6, 1907), San Francisco.

H. A. Jones (Aug. 25, 1905), San Francisco.

J. L. Willcutt, San Francisco.

Jas. K. Wilson, San Francisco.

OFFICERS, elected April 9, 1907:

Wm. D. Cornish, President (Aug. 30, 1905), New York.

E. E. Calvin, Vice-President (Aug. 30, 1905), San Francisco.

C. H. Redington, Second Vice-President (June 6, 1907), San Francisco.

Wm. Mahl, Comptroller (November 2, 1905), New York.

A. K. Van Deventer, Treasurer (June 6, 1907), New York.

C. H. Redington, Assistant Treasurer (June 6, 1907), San Francisco.

J. L. Willcutt, Secretary, San Francisco.

Jos. Hellen, Assistant Secretary (Aug. 30, 1905), New York.

Chas. P. Lincoln, Assistant Secretary, San Francisco.

---

Alex. Millar, Transfer Agent, New York.

Joseph Hellen, Transfer Agent, New York.

Otto C. Kahn, Transfer Agent, New York.

W. H. James, Transfer Agent for Bonds, New York.

James Watkins, Transfer Agent for Bonds, New York.

Chas. P. Lincoln, Transfer Agent for Bonds, San Francisco.

Joseph Hellen and O. C. Kahn, New York, are act-

ing Transfer Agents for Bonds of S. P. R. R. Cos. of California and of New Mexico. [1098]

From Manual No. 6, for the year 1907, marked Plaintiff's Exhibit "N N N", the title page and index and such matter as appears upon pages 28, 48, 55, 56, 57, 58 and 59, together with the corrections in red ink found therein, which I will read into the record as follows:

SOUTHERN PACIFIC and AUXILIARY COMPANIES.

—oOo—

Manual No. 6—July 1, 1907.

—oOo—

*Notice*:—Officers receiving this volume will confer a favor on the undersigned by giving him early notice of errors noted, or changes necessary, in the following pages.

Alex. Millar, Secretary.

(Secretary's Files)

SOUTHERN PACIFIC and AUXILIARY COMPANIES.

Manual No. 6—1907.

of

Annual Meetings, Directors, Officers, Capital Stock,  
Funded Dept, Etc.

July 1, 1907.

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**KERN TRADING & OIL CO.**

Incorporated, California, May 22, 1903, for 50 Years.

ANNUAL MEETING, San Francisco, Cal., first Wednesday in May, at 11 A.M. Two weeks' notice to be given, either published daily for at least two weeks previously or by writing.

Regular meeting of Directors, second Wednesday of each month at 12, noon.

No specification for close of fiscal year. [1101]

CAPITAL STOCK: authorized and issued, \$1,000,000. Shares \$100 each.

DIRECTORS (5), elected May 1, 1907:

E. E. Calvin, San Francisco.

E. T. Dumble, San Francisco.

J. E. Foulds, San Francisco.

W. R. Scott, (July 30, 1908), San Francisco.

C. H. Redington (July 30, 1908), San Francisco.

OFFICERS, elected May 1, 1907:

E. E. Calvin, President, San Francisco.

E. T. Dumble, Vice-President, San Francisco.

J. L. Willcutt, Secretary, San Francisco.

C. H. Redington, Treasurer (June 12, 1907), San Francisco.

C. B. Seger, Auditor (July 30, 1908), San Francisco.

(48)

### RIO BRAVO OIL CO.

Incorporated, Texas, March 3, 1903, for 50 Years.

ANNUAL MEETING, Houston, Texas, second Monday in January. Written notice to be given at least five days previously.

Meetings of Directors can be held at any time.

Fiscal year closes June 30.

**CAPITAL STOCK:** authorized, \$1,000,000; shares \$100 each.

**DIRECTORS** (5), elected January 14, 1907:

G. R. Cottingham, Houston.

E. T. Dumble, Houston.

Thornwell Fay, Houston.

\*E. H. Harriman, New York.

W. G. Van Vleck, Houston.

**OFFICERS**, elected January 14, 1907: [1102]

\*E. H. Harriman, President, New York.

\*Thornwell Fay, Vice-President, Houston.

C. R. Cottingham, Secretary, Houston.

B. C. Cushman, Treasurer, Houston.

\*Elected May 14, 1907.

(55)

### **SOUTHERN PACIFIC COMPANY.**

Incorporated by Act of General Assembly of the State of Kentucky approved March 17, 1884, in perpetuity, for the purpose of unifying in management lines of railroad extending from New Orleans, La., to San Francisco, Cal., to Portland, Ore., and to Ogden, Utah.

. . . . .

### **TRANSPORTATION LINES.**

The Southern Pacific Company is the principal owner of the capital stock of the following companies, and operates them under leases to it: Central Pacific Railway, Oregon and California Railroad, Southern Pacific Railroad, South Pacific Coast Railway.

The Southern Pacific is also the principal owner of the capital stock of the following companies, which operate their own lines, viz: Galveston, Harrisburg & San Antonio Railway, Texas and New Orleans Railroad, Louisiana Western Railroad, Maricopa and Phoenix and Salt River Valley Railroad, Houston & Texas Central Railroad, Carson & Colorado Railway, California Northeastern Railway, Chico & Northern Railroad, Coos Bay, Roseburg & Eastern Railroad

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and Navigation, Houston East and West Texas Railway, Inter-California Railway, Nevada & California Railway; Phoenix & [1103] Eastern Railroad, San Francisco & Napa Railway, Pacific Mail Steamship, Morgan's Louisiana & Texas Railroad and Steamship; and owner of half the stock of the Northwestern Pacific Railroad Co. and of the Sunset Railroad Co.; and it operates under leases from the Atchison, Topeka & Santa Fe the lines of the New Mexico & Arizona Railroad and the Sonora Railway companies.

The Morgan's Louisiana & Texas Railroad & Steamship Co. is the principal owner of stocks of the following companies, which are operated under their own organizations, viz: Direct Navigation Co., Iberia & Vermilion Railroad.

The Southern Pacific Co. also operates steamship lines from New Orleans to Havana, and from New York to New Orleans, and Galveston, Texas, and owns 19 ocean steamers. The Pacific Mail Steamship Co. operates lines from San Francisco to ports

in Japan, China, and South and Central America, and owns 16 ocean steamers. Companies controlled by the Southern Pacific Co. also operate ferry, harbor and river lines in Louisiana, Texas, and California. The total of all routes is about 15,000 miles.

The Mojave Division of the Southern Pacific Railroad, 242 miles, is leased to the Atchison, Topeka & Santa Fe Railway Company until 1979, at an annual rental of \$218,133.

**DIRECTORS (15), elected April 3, 1907:**

Wm. D. Cornish, New York.

W. Bayard Cutting (April 11, 1907), New York.

Maxwell Evarts, New York.

Henry W. de Forest, Oyster Bay, N. Y.

Robert Goelet, Newport, R. I.

E. H. Harriman, New York.

Marvin Hughitt, Chicago. [1104]

H. E. Huntington, San Francisco.

R. S. Lovett, New York.

Clarence H. Mackay, New York.

Wm. Mahl (July 8, 1907), New York.

Ogden Mills, Staatsburg, N. Y.

James Stillman, New York.

W. V. S. Thorne, New York.

A. K. Van Deventer, New York.

**EXECUTIVE COMMITTEE (5), elected April 11, 1907:**

E. H. Harriman, Chairman.

Hy. W. deForest.

R. S. Lovett.

Ogden Mills (June 20, 1907).

James Stillman.

(57)

### OFFICERS.

EXECUTIVE DEPARTMENT, elected April 11,  
1907:

E. H. Harriman, President, New York.

Wm. D. Cornish, Vice-President, New York.

J. C. Stubbs, Vice-President, Chicago.

J. Kruttschnitt, Vice-President, Chicago.

E. E. Calvin, Vice-President, San Francisco.

Alex. Millar, Clerk and Secretary, New York.

Joseph Hellen, Asst. Clerk and Asst. Secretary,  
New York.

John B. Weaver, Assistant Clerk, Beechmont, Ky.

C. B. Seger, Assistant Secretary (March 16, 1905)  
San Francisco.

A. D. McDonald, Assistant Secretary (Dec. 20,  
1906), San Francisco.

A. K. Van Deventer, Treasurer (May 1, 1907),  
New York. [1105]

C. H. Redington, Assistant Treasurer (May 23,  
1907), San Francisco.

---

Geo. M. Thornton, Cashier, New York.

Alex. Millar, Transfer Agent, New York.

Otto C. Kahn, Assistant Transfer Agent, New  
York.

W. H. James, Asst. Transfer Agent for Stock, New  
York.

H. B. Taylor, Asst. Transfer Agent for Stock, New York.

Union Trust Co., Registrar of Transfers of Common Stock, New York.

Guaranty Trust Co., Registrar of Transfers of Preferred Stock, New York.

**LEGAL DEPARTMENT:**

New York.

R. S. Lovett, Counsel.

Maxwell Evarts, Attorney.

San Francisco.

Wm. F. Herrin, Chief Counsel.

P. F. Dunne, General Attorney.

J. E. Foulds, Attorney.

D. R. Sessions, Claims Attorney.

E. B. Ryan, Tax Attorney.

Portland.

J. W. Morrow, Right of Way and Tax Agent.

Chicago.

F. C. Dillard, Attorney.

**ACCOUNTING DEPARTMENT:**

Wm. Mahl, Comptroller, New York.

H. B. Johnson, Assistant Comptroller, New York.

[1106]

Erastus Young, General Auditor, Ohama.

C. B. Seger, Auditor, San Francisco.

C. J. Wilder, Auditor of Dining Car and Hotel Accounts, San Francisco.

D. W. Horsburgh, Freight Auditor, San Francisco.

G. E. Bissonett, Auditor of Passenger Accounts, San Francisco.

(58)

## TRAFFIC DEPARTMENT:

- J. C. Stubbs, Traffic Director, Chicago.  
E. O. McCormick, Asst. Traffic Director, Chicago.  
P. C. Stohr, Asst. Traffic Director, Chicago.  
H. A. Jones, Freight Traffic Manager, San Francisco.  
G. W. Luce, General Freight Agent, San Francisco.  
S. N. Bostwick, Asst. General Freight Agent, San Francisco.  
C. J. Jones, Asst. General Freight Agent, San Francisco.  
J. G. Stubbs, Asst. General Freight Agent, San Francisco.  
T. A. Graham, Assistant General Freight and Passenger Agent, Los Angeles.  
Chas. S. Fee, Passenger Traffic Manager, San Francisco.  
Jas. Horsburgh, Jr., Gen. Passenger Agent, San Francisco.  
R. A. Donaldson, Asst. Gen. Passenger Agent, San Francisco.  
Paul Shoup, Asst. Gen. Passenger Agent, San Francisco.  
H. R. Judah, Asst. Gen. Passenger Agent, San Francisco.  
R. B. Miller, Gen. Freight Agent, Lines in Oregon, Portland.  
W. E. Coman, Asst. Gen. Freight Agent, Lines in Oregon, Portland.

W. D. Skinner, Asst. Gen. Freight Agent, Lines in Oregon, Portland.

Wm. McMurray, Gen. Passenger Agent, Lines in Oregon, Portland. [1107]

J. M. Scott, Asst. Gen. Passenger Agent, Lines in Oregon, Portland.

E. B. Carson, General Baggage Agent, San Francisco.

**TRANSPORTATION DEPARTMENT:**

J. Kruttschnitt, Director of Maint. and Operation, Chicago.

W. B. Scott, Assistant Director of Maintenance and Operation, Chicago.

E. E. Calvin, General Manager, Pacific System, San Francisco.

J. P. O'Brien, General Manager, Oregon Lines, Portland.

W. H. Bancroft, Gen. Mgr., Line East of Reno, Salt Lake City.

W. S. Palmer, Gen. Supt., Northern District, San Francisco.

R. H. Ingram, Gen. Supt., Southern District, Los Angeles.

M. J. Buckley, Gen. Supt., Oregon Lines, Portland.

Geo. F. Richardson, Supt. of Transportation, San Francisco.

Epes Randolph, Gen. Mgr. Sonora Ry., Tucson, Ariz.

A. E. Roome, Superintendent Telegraph, San Francisco.

H. J. Small, General Supt. Motive Power, San Francisco.

C. W. Jungen, Mgr. Atlantic Coast S. S. Lines, New York.

**ENGINEERING DEPARTMENT:**

Wm. Hood, Chief Engineer, San Francisco.

J. H. Wallace, Asst. Chief Engineer, San Francisco.

G. H. Boschke, Chief Engineer, Lines in Oregon, Portland.

John D. Isaacs, Consulting Engineer, Chicago.

(59)

**LAND DEPARTMENT:**

Henry Conlin, Acting Land Agt., S. P. R. R. (6/11/08) and O. & C. R. R. (6/15/08), San Francisco.

C. C. Gibbs, Land Commissioner, San Antonio.

[1108]

**SUPPLY DEPARTMENT:**

W. V. S. Thorne, Director of Purchases, New York.

I. O. Rhoades, Gen. Purchasing Agent, San Francisco.

H. W. Ellicott, Asst. Gen. Purchasing Agent, San Francisco.

H. C. Pearce, General Storekeeper, San Francisco.

**MISCELLANEOUS:**

F. K. Ainsworth, Chief Surgeon and Hospital Manager, San Francisco.

D. Urquhart, Superintendent Commissary, San Francisco.

E. T. Dumble, Consulting Geologist, San Francisco.

G. L. King, Right of Way and Contract Agent, San Francisco.

From Manual No. 7, for the year 1908, the title page and index, together with such matter as appears upon pages 35, 58, 64, 65, 66, 67, 68, 69, 72, 73 and 74, together with the corrections appearing therein in red ink, which I will read into the record as follows; said manual being marked Plaintiff's Exhibit "000".

SOUTHERN PACIFIC and AUXILIARY COMPANIES.

—oOo—

Manual No. 7—July 1, 1908.

—oOo—

*Notice:*—Officers receiving this volume will confer a favor on the undersigned by giving him early notice of errors noted, or changes necessary, in the following pages.

Alex. Millar, Secretary. [1109]  
(Secretary's Files)

SOUTHERN PACIFIC and AUXILIARY COMPANIES.

Manual No. 7—1908.

of

Annual Meetings, Directors, Officers, Capital Stock,  
Funded Debt, etc.

July 1, 1908.

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# KERN TRADING & OIL CO.

Incorporated, California, May 22, 1903, for 50 Years.

ANNUAL MEETING, San Francisco, first Wednesday in May, at 11 A.M. Two weeks' notice to be given, either published daily for at least two weeks previously or by writing.

Regular meeting of Directors, second Wednesday of each month at 12, noon.

No specification for close of fiscal year.

CAPITAL STOCK: authorized and issued, \$1,-000,000. Shares \$100 each.

DIRECTORS (5), elected May 1, 1907:

E. E. Calvin, San Francisco.

E. T. Dumble, San Francisco.

J. E. Foulds, San Francisco.

C. H. Redington (July 30, 1908), San Francisco.

W. R. Scott (July 30, 1908), San Francisco.

OFFICERS, elected May 1, 1907: [1112]

E. E. Calvin, President, San Francisco.

E. T. Dumble, Vice-President, San Francisco.

G. L. King,

J. L. Wilcutt, Secretary (Jan. 1, 1909), San Francisco.

C. H. Redington, Treasurer (June 12, 1907), San Francisco.

C. B. Seger, Auditor (1908), San Francisco.

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**RIO BRAVO OIL CO.**

Incorporated, Texas, March 3, 1903, for 50 Years.

ANNUAL MEETING, Houston, Texas, second Monday in January. Written notice to be given at least five days previously.

Meetings of Directors can be held at any time.

Fiscal year closes June 30.

CAPITAL STOCK: authorized, \$1,000,000; issued \$850,000. Shares \$100 each.

DIRECTORS (5), elected January 13, 1908:

G. R. Cottingham, Houston.

E. T. Dumble, Houston.

Thornwell Fay, Houston.

E. H. Harriman, New York.

W. G. Van Vleck, Houston.

OFFICERS, elected January 13, 1908:

E. H. Harriman, President, New York.

Thornwell Fay, Vice-President, Houston.

G. R. Cottingham, Secretary, Houston.

B. C. Cushman, Treasurer, Houston.

(64)

**SOUTHERN PACIFIC COMPANY.**

Incorporated by Act of General Assembly of the State of Kentucky, approved March 17, 1884, in perpetuity, for [1113] the purpose of unifying in management lines of railroad extending from New Orleans, La., to San Francisco, Cal., to Portland, Ore., and to Ogden, Utah.

. . . . .

## TRANSPORTATION LINES.

The Southern Pacific Company is the principal owner of the capital stock of the following companies, and operates them under leases to it: Central Pacific Railway, Oregon and California Railroad, Southern Pacific Railroad, South Pacific Coast Railway.

The Southern Pacific is also the principal owner of the capital stock of the following companies, which operate their own lines, viz: Galveston, Harrisburg & San Antonio Railway,

(65)

Texas and New Orleans Railroad, Louisiana Western Railroad, Maricopa and Phoenix Railroad, Houston & Texas Central Railroad, Cananea Yaqui River & Pacific Railway, California Northeastern Railway, Chico & Northern Railroad, Coast Line Railway, Coos Bay, Roseburg & Eastern Railroad and Navigation, Houston East and West Texas Railway, Houston & Shreveport Railroad, Gila Valley, Globe & Northern Railway, Houston & Shreveport Railroad, Gila Valley Globe & Northern Railway, Inter-California Railway, Nevada & California Railway, Phoenix & Eastern Railroad, San Bernardino & Redlands Railroad, San Francisco & Napa Railway, Pacific Mail Steamship, Morgan's Louisiana & Texas Railroad and Steamship; and owner of half of the stock of the Northwestern Pacific Railroad Co., and of the Sunset Railroad Co.; and it operates under leases from the Atchison, Topeka & Santa Fe the

lines of the New Mexico & Arizona Railroad and the [1114] Sonora Railway Companies.

The Morgan's Louisiana & Texas Railroad & Steamship Co. is the principal owner of stocks of the following companies, which are operated under their own organizations, viz: Direct Navigation Co., Iberia & Vermilion Railroad.

The Southern Pacific Co. also operates steamship lines from New Orleans to Havana, and from New York to New Orleans, and Galveston, Texas, and owns 21 ocean steamers. The Pacific Mail Steamship Co. operates lines from San Francisco to ports in Japan, China, and South and Central America, and owns 16 ocean steamers. Companies controlled by the Southern Pacific Co. also operate ferry, harbor and river lines in Louisiana, Texas, and California. The total of all routes is about 15,000 miles.

The Mojave Division of the Southern Pacific Railroad, 242 miles, is leased to the Atchison, Topeka & Santa Fe Railway Company until 1979, at an annual rental of \$218,133.

**DIRECTORS** (15), elected April 8, 1908:

Wm. D. Cornish, New York.

W. Bayard Cutting, New York.

Maxwell Evarts, New York.

Henry W. de Forest, Oyster Bay, N. Y.

Robert Goelet, Newport, R. I.

E. H. Harriman, New York.

Marvin Hughitt, Chicago.

H. E. Huntington, San Francisco.

R. S. Lovett, New York.

Clarence H. Mackay, New York.

Wm. Mahl, New York.

Ogden Mills, Staatsburg, N. Y. [1115]

W. V. S. Thorne, New York.

Frank A. Vanderlip, New York.

A. K. Van Deventer, New York.

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EXECUTIVE COMMITTEE (5), elected April 16,  
1908:

E. H. Harriman, Chairman.

Hy. W. de Forest.

R. S. Lovett.

Ogden Mills.

Frank A. Vanderlip.

#### OFFICERS.

EXECUTIVE DEPARTMENT, elected April 16,  
1908:

E. H. Harriman, President, New York.

Wm. D. Cornish, Vice-President, New York.

J. C. Stubbs, Vice-President, Chicago.

J. Kruttschnitt, Vice-President, Chicago.

E. E. Calvin, Vice-President, San Francisco.

Alex. Millar, Clerk and Secretary, New York.

Joseph Hellen, Asst. Clerk and Asst. Sec., New  
York.

John B. Weaver, Assistant Clerk, Beechmont, Ky.

C. B. Seger, Asst. Secretary (July 28, 1908), San  
Francisco.

W. F. Ingram, Assistant Secretary, San Fran-  
cisco.

A. K. Van Deventer, Treasurer, New York.

C. H. Redington, Assistant Treasurer, San Francisco.

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Geo. M. Thornton, Cashier, New York.

Alex. Millar, Transfer Agent, New York.

Otto C. Kahn, Transfer Agent for Bonds, New York.

R. Troop, Transfer Agent for Bonds, New York.

Union Trust Co., Registrar of Transfers of Common Stock, New York. [1116]

Guaranty Trust Co., Registrar of Transfers of Preferred Stock, New York.

**LEGAL DEPARTMENT:**

New York.

R. S. Lovett, Counsel.

Maxweell Evarts, Attorney.

San Francisco.

Wm. F. Herrin, Chief Counsel.

P. F. Dunne, General Attorney.

J. E. Foulds, Attorney.

D. R. Sessions, Claims Attorney.

E. B. Ryan, Tax Attorney.

Portland.

J. W. Morrow, Right of Way and Tax Agent.

Chicago.

F. C. Dillard, Attorney.

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**ACCOUNTING DEPARTMENT:**

Wm. Mahl, Comptroller, New York.

H. B. Johnson, Assistant Comptroller, New York.  
Erastus Young, General Auditor, Omaha.

C. B. Seger, Auditor, San Francisco.

W. F. Ingram, Assistant Auditor, San Francisco.

D. W. Horsburgh, Auditor of Freight Accts., San Francisco.

G. D. Smith, Asst. Auditor of Freight Accts., San Francisco.

G. E. Bissonett, Auditor of Pass. Accounts, San Francisco.

R. Adams, Auditor of Disbursements, San Francisco.

C. J. Wilder, Auditor of Dining Car and Hotel Accounts, San Francisco. [1117]

O. F. Giffin, Auditor of Equipment Accounts, San Francisco.

J. M. Brewer, Freight Claim Agent, San Francisco.

#### TRAFFIC DEPARTMENT:

J. C. Stubbs, Traffic Director, Chicago.

E. O. McCormick, Asst. Traffic Director, Chicago.

P. C. Stohr, Asst. Traffic Director, Chicago.

H. A. Jones, Freight Traffic Manager, San Francisco.

G. W. Luce, General Freight Agent, San Francisco.

S. N. Bostwick, Asst. General Freight Agent, San Francisco.

C. J. Jones, Asst. General Freight Agent, San Francisco.

J. G. Stubbs, Asst. General Freight Agent, San Francisco.

T. A. Graham, Assistant General Freight and Passenger Agent, Los Angeles.

Chas. S. Fee, Passenger Traffic Manager, San Francisco.

Jas. Horsburgh, Jr., Gen. Passenger Agent, San Francisco.

R. A. Donaldson, Asst. Gen. Pass. Agent, San Francisco.

Paul Shoup, Asst. Gen. Passenger Agent, San Francisco.

H. R. Judah, Asst. Gen. Passenger Agent, San Francisco.

R. B. Miller, Gen. Freight Agent, Lines in Oregon, Portland.

W. E. Cowan, Asst. Gen. Freight Agent, Lines in Oregon, Portland.

W. D. Skinner, Asst. Gen. Freight Agent, Lines in Oregon, Portland.

Wm. McMurray, Gen. Passenger Agent, Lines in Oregon, Portland.

J. M. Scott, Asst. Gen. Passenger Agent, Lines in Oregon, Portland. [1118]

E. B. Carson, General Baggage Agent, San Francisco.

H. P. Thrall, Mail Traffic Manager, Chicago.

**TRANSPORTATION DEPARTMENT:**

J. Kruttschnitt, Director of Maint. and Operation, Chicago.

W. B. Scott, Asst. Director of Maint. and Operation, Chicago.

W. A. Worthington, Asst. to Director of Maint. and Operation, Chicago.

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TRANSPORTATION DEPARTMENT — Continued:

E. E. Calvin, Gen. Manager, Pacific System, San Francisco.

J. P. O'Brien, Gen. Manager, Oregon Lines, Portland.

W. H. Bancroft, Gen. Manager Line East of Reno, Salt Lake City.

J. H. Young, Gen. Supt., Northern District, San Francisco.

R. H. Ingram, Gen. Supt. Southern District, Los Angeles.

M. J. Buckley, Gen. Supt., Oregon Lines, Portland.

Geo. F. Richardson, Supt of Transportation, San Francisco.

Epes Randolph, Gen. Manager, Sonora Ry., Tucson, Ariz.

F. S. Rawlins, Superintendent Telegraph, San Francisco.

H. J. Small, Gen. Supt. Motive Power, San Francisco.

C. W. Jungen, Mgr. Atl. Coast S. S. Lines, New York.

ENGINEERING DEPARTMENT:

Wm. Hood, Chief Engineer, San Francisco.

J. Q. Barlow, Asst. Chief Engineer, San Francisco.

G. H. Boschke, Chief Engr., Lines in Oregon, Portland.

John D. Isaacs, Consulting Engineer, Chicago.

**LAND DEPARTMENT: [1119]**

Henry Conlin, Acting Land Agt., S. P. R. R. and O. & C. R. R., San Francisco.

C. C. Gibbs, Land Commissioner, San Antonio.

**SUPPLY DEPARTMENT:**

W. V. S. Thorne, Director of Purchases, New York.

I. O. Rhoades, Gen. Purchasing Agent, San Francisco.

H. C. Pearce, General Storekeeper, San Francisco.

**MISCELLANEOUS:**

F. K. Ainsworth, Chief Surgeon and Hospital Manager, San Francisco.

D. Urquhart, Superintendent Commissary, San Francisco.

E. T. Dumble, Consulting Geologist, San Francisco.

G. L. King, Right of Way and Contract Agent, San Francisco.

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**SOUTHERN PACIFIC RAILROAD CO.**

Incorporated, California, Arizona, and New Mexico,  
March 10, 1902, for 50 years.

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## FUNDED DEBT.

First Mortgage Gold Bonds of S. P. R. R. Co., of California, of 1875; series A to G, inclusive; authorized, \$46,000,000; issued, \$39,285,000; outstanding, \$5,111,000.

- E Authorized and issued, \$5,000,000;  
dated April 1, 1882; due April 1,  
1912; outstanding ..... \$3,147,000
- F. Authorized, \$5,000,000; issued, \$4,  
285,000; dated April 1, 1882;  
due April 1, 1912; outstanding 1,964,000  
[1120]

G. Authorized, \$6,000,000; never issued.

Interest, 6 per cent., gold, payable April and October. Trustees, D. O. Mills, New York, and Homer S. King, San Francisco.

Southern Pacific Branch Railway First Mortgage Gold Bonds; authorized, \$9,000,000; issued, \$3,578,000; dated April 1, 1887; due April 1, 1937; outstanding, \$3,533,000. Interest, 6 per cent., gold, payable April and October. Trustee, Union Trust Company of San Francisco.

Southern Pacific R. R. of California, First Consolidated Mortgage Gold Bonds of 1893; authorized, \$58,000,000; issued \$28,766,000; dated September 15, 1893; due November 1, 1937; outstanding, \$4,127,500. Interest, 5 per cent., gold, payable May and November. Trustee, Central Trust Company of New York.

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Northern Railway First Mortgage Gold Bonds of 1888: authorized, \$21,000,000; issued and outstand-

ing, \$4,751,000; dated October 1, 1888; due October 1, 1938. Interest, 5 per cent., gold, payable April and October. Trustee, Union Trust Company of New York.

Northern California Railway First Mortgage Gold Bonds: authorized, \$1,100,000; issued and outstanding, \$1,074,000; dated November 1, 1899; due November 1, 1929. Interest, 5 per cent., gold, payable June and December. Trustee, California Safe Deposit & Trust Co., of San Francisco.

California Pacific R. R. First Mortgage Gold Bonds: authorized and issued, \$2,250,000; outstanding, \$2,232,000; dated January 1, 1867; due January 1, 1912. Interest,  $4\frac{1}{2}$  per cent., gold, payable January and July. Trustees, Jas. O'B. Gunn and Chas. E. Green, both of the City of San Francisco, Cal.

[1121]

California Pacific R. R. Second Mortgage Gold Bonds: authorized and issued, \$1,600,000; outstanding, \$1,595,000; dated August 9, 1871; due January 1, 1911. Interest,  $4\frac{1}{2}$  per cent., gold, payable January and July. Trustees, Jas. O'B. Gunn and Chas. E. Green, both of the City of San Francisco, Cal.

Southern Pacific R. R. (of Arizona) First Mortgage Gold Bonds: authorized, issued and outstanding, \$10,000,000; Series A, amounting to \$6,000,000; dated March 1, 1879; due March 1, 1909; and Series B, \$4,000,000; dated March 1, 1880; due March, 1910. Interest, 6 per cent., gold, payable January and July. Trustees, I. W. Hellman, and Union Trust Company, both of the City of San Francisco, Cal.

Southern Pacific R. R. of New Mexico First Mortgage Gold Bonds: authorized, \$5,000,000; issued and outstanding, \$4,180,000; dated January 1, 1881; due January 1, 1911. Interest, 6 per cent., gold, payable January and July. Trustees, I. W. Hellman and Union Trust Company, both of the City of San Francisco, Cal.

Southern Pacific R. R. First Refunding Bonds: authorized, \$160,000,000; issued and outstanding, \$88,489,000; dated January 3, 1905; due January 1, 1955. Interest, 4 per cent., January and July. Trustee, The Equitable Trust Co. of New York.

**DIRECTORS (11), elected April 14, 1908:**

F. K. Ainsworth, San Francisco.

E. E. Calvin, San Francisco.

Wm. D. Cornish, E. H. Harriman (12/3/08), New York.

I. W. Hellman, San Francisco.

Wm. F. Herrin, San Francisco. [1122]

Wm. Hood, San Francisco.

H. A. Jones, San Francisco.

Homer S. King, San Francisco.

C. H. Redington, San Francisco.

W. R. Scott ( " ), San Francisco.

Jas. K. Wilson, San Francisco.

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**OFFICERS, elected April 16, 1908:**

E. H. Harriman, President (Dec. 3/08), New York.

E. E. Calvin, Vice-President, San Francisco.

C. H. Redington, Second Vice-President, San Francisco.

- Wm. Mahl, Comptroller, New York.  
A. K. Van Deventer, Treasurer, New York.  
C. H. Redington, Assistant Treasurer, San Francisco.  
G. L. King, Secretary (Jany. 1, 1909), San Francisco.  
Jos. Hellen, Assistant Secretary, New York.  
Chas. P. Lincoln, Assistant Secretary, San Francisco.  
C. B. Seger, Auditor (1908), San Francisco.
- 

- Alex. Millar, Transfer Agent, New York.  
Joseph Hellen, Transfer Agent, New York.  
Otto C. Kahn, Transfer Agent, New York.  
W. H. James, Transfer Agent for Bonds, New York.  
James Watkins, Transfer Agent for Bonds, New York.  
Chas. P. Lincoln, Transfer Agent for Bonds, San Francisco.  
Joseph Hellen and O. C. Kahn, New York, are Acting Transfer Agents for Bonds of S. P. R. R. Cos. of California and of New Mexico.  
Alfred S. Donaw, Statutory Agent in Arizona (May 4/09), Tucson.  
J. A. Mahoney, Statutory Agent in N. Mexico, Deming. [1123]  
From Manual No. 8, for the year 1909, marked Plaintiff's Exhibit "PPP", the title page and index and such matter as appears upon pages 36, 60, 66, 67, 68, 69, 70, 71, 74, 75 and 76, together with the correc-

tions appearing therein in red ink, which I will read into the record as follows:

**SOUTHERN PACIFIC and AUXILIARY COMPANIES.**

—oOo—

Manual No. 8—November 1, 1909.

—oOo—

*Notice:*—Officers receiving this volume will confer a favor on the undersigned by giving him early notice of errors noted, or changes necessary, in the following pages.

Alex. Millar, Secretary.

**SOUTHERN PACIFIC and AUXILIARY COMPANIES.**

Manual No. 8—1909.

of

Annual Meetings, Directors, Officers, Capital Stock,  
Funded Debt, Etc.

November 1, 1909.

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**KERN TRADING & OIL CO.**

Incorporated, California, May 22, 1903, for 50 years.

ANNUAL MEETING, San Francisco, first Wednesday in May, at 11 A.M. Two weeks' notice to be given, either published daily for at least two weeks previously or by writing.

Regular meeting of Directors, second Wednesday of each month, at 12, noon.

No specification for close of fiscal year.

CAPITAL STOCK: authorized and issued, \$1,000,000. Shares \$100 each.

DIRECTORS (5), elected May 1, 1907:

E. E. Calvin, San Francisco.

E. T. Dumble, San Francisco.

J. E. Foulds, San Francisco.

C. H. Redington (July 30, 1908), San Francisco.

W. R. Scott (July 30, 1908), San Francisco.

OFFICERS, elected May 1, 1907:

E. E. Calvin, President, San Francisco.

E. T. Dumble, Vice-President, San Francisco.

G. L. King, Secretary (Jan. 1, 1909), San Francisco.

C. H. Redington, Treasurer (June 12, 1907), San Francisco.

C. B. Seger, Auditor (1908), San Francisco.

(60)

**RIO BRAVO OIL CO.**

Incorporated, Texas, March 3, 1903, for 50 years.

[1127]

ANNUAL MEETING, Houston, Texas, second Monday in January. Written notice to be given at least five days previously.

Meetings of Directors can be held at any time.

Fiscal year closes June 30.

CAPITAL STOCK: authorized, \$1,000,000; issued, \$850,000; shares \$100 each.

DIRECTORS (5), elected January 11, 1909:

G. R. Cottingham, Houston.

E. T. Dumble, Houston.

Thornwell Fay, Houston.

R. S. Lovett (Nov. 9), New York.

W. G. Van Vleck, Houston.

OFFICERS, elected January 11, 1909:

R. S. Lovett, President (Nov. 9), New York.

Thornwell Fay, Vice-President, Houston.

G. R. Cottingham, Secretary, Houston.

B. C. Cushman, Treasurer, Houston.

(66)

#### SOUTHERN PACIFIC COMPANY.

Incorporated by Act of General Assembly of the State of Kentucky, approved March 17, 1884, in perpetuity, for the purpose of unifying in management lines of railroad extending from New Orleans, La., to San Francisco, Cal., to Portland, Ore., and to Ogden, Utah.

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. . . . .

The Southern Pacific Company is the principal owner of the capital stock of the following companies, and operates them under leases to it: Cen-

tral Pacific Railway, Oregon and California Railroad, Southern Pacific Railroad, South Pacific Coast [1128] Railway, Nevada & California Railway.

(67)

The Southern Pacific also owns all the stock of the following companies, whose lines are leased to the Southern Pacific Railroad Co.: Coast Line Railway, Inter-California Railway, San Bernardino & Redlands Railroad, San Francisco & Napa Railway; and of the California Northeastern Railway, which is leased to the Central Pacific Railway Co.

The Southern Pacific is also the principal owner of the capital stock of the following companies, which operate their own lines, viz: Galveston, Harrisburg & San Antonio Railway, Texas and New Orleans Railroad, Louisiana Western Railroad, Maricopa and Phoenix Railroad, Houston & Texas Central Railroad, Coos Bay, Roseburg & Eastern Railroad and Navigation, Houston, East and West Texas Railway, Houston & Shreveport Railroad, Gila Valley, Globe & Northern Railway, Phoenix & Eastern Railroad, Pacific Mail Steamship, Morgan's Louisiana & Texas Railroad and Steamship; and owner of half the stock of the Northwestern Pacific Railroad Co. and of the Sunset Railroad Co.; and it operates under leases from the Atchison, Topeka & Santa Fe the lines of the New Mexico & Arizona and the Sonora Railway companies.

The Morgan's Louisiana & Texas Railroad & Steamship Co. is the principal owner of stocks of the following companies, which are operated under their

own organizations, viz: Direct Navigation Co., Iberia & Vermilion Railroad.

The Southern Pacific Co. also operates steamship lines from New Orleans to Havana, and from New York to New Orleans, and Galveston, Texas, and owns 21 ocean steamers. The Pacific Mail Steamship Co. operates lines from San Francisco to ports [1129] in Japan, China, and South and Central America, and owns 15 ocean steamers. Companies controlled by the Southern Pacific Co. also operate ferry, harbor and river lines in Louisiana, Texas and California. The total of all routes is about 15,000 miles.

The Mojave Division of the Southern Pacific Railroad, 242 miles, is leased to the Atchison, Topeka & Santa Fe Railway Company until 1979, at an annual rental of \$218,133.

**DIRECTORS (15), elected April 7, 1909:**

W. Bayard Cutting, New York.  
Henry W. de Forest, Oyster Bay, N. Y.  
Robert Goelet, Newport, R. I.  
Robert W. Goelet, Newport, R. I.  
Marvin Hughitt, Chicago.  
H. E. Huntington, New York.  
R. S. Lovett, New York.  
Clarence H. Mackay, New York.  
Ogden Mills, Staatsburg, N. Y.  
Charles A. Peabody, New York.  
Wm. Rockefeller (Sept. 14), New York.  
J. H. Schiff (Sept. 14), New York.  
W. V. S. Thorne, New York.

Frank A. Vanderlip, New York.  
(One vacancy).

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EXECUTIVE COMMITTEE (6), elected April 13,  
1909:

R. S. Lovett, Chairman.

Hy. W. de Forest.

Ogden Mills. [1130]

Wm. Rockefeller (Sept. 14).

J. H. Schiff (Sept. 14).

Frank A. Vanderlip.

#### OFFICERS.

EXECUTIVE DEPARTMENT, elected April 13,  
1909:

R. S. Lovett, President, (Oct. 28), New York.

J. C. Stubbs, Vice-President, Chicago.

J. Kruttschnitt, Vice-President, Chicago.

E. E. Calvin, Vice-President, San Francisco.

Wm. Mahl, Vice-President (Oct. 28), New York.

Alex. Millar, Clerk and Secretary, New York.

Joseph Hellen, Asst. Clerk and Asst. Sec., New  
York.

John B. Weaver, Assistant Clerk, Beechmont, Ky.

C. B. Seger, Asst. Secretary, San Francisco.

W. F. Ingram, Assistant Secretary, San Fran-  
cisco.

A. K. Van Deventer, Treasurer, New York.

C. H. Redington, Assistant Treasurer, San Fran-  
cisco.

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Geo. M. Thornton, Cashier, New York.

1454      *The Southern Pacific Co. et al. vs.*

Geo. S. Evans, Cashier, San Francisco.

Alex. Millar, Transfer Agent, New York.

Otto C. Kahn, Transfer Agent for Bonds, New York.

R. Troup, Transfer Agent for Bonds, New York.

Union Trust Co., Registrar of Transfers of Common Stock, New York.

Guaranty Trust Co., Registrar of Transfers of Preferred Stock, New York.

**LEGAL DEPARTMENT.**

New York. [1131]

General Counsel.

Maxwell Evarts, Attorney.

Gordon M. Buck, Attorney.

San Francisco.

Wm. F. Herrin, Chief Counsel.

P. F. Dunne, General Attorney.

J. E. Foulds, Attorney.

D. R. Sessions, Claims Attorney.

Jere T. Burke, Tax Attorney.

Portland.

J. W. Morrow, Right of Way and Tax Agent.

Chicago.

F. C. Dillard, Interstate Commerce Attorney.

(69)

**ACCOUNTING DEPARTMENT:**

Wm. Mahl, Comptroller, New York.

H. B. Johnson, Assistant Comptroller, New York.

Erastus Young, General Auditor, Omaha.

C. B. Seger, Auditor, San Francisco.

W. F. Ingram, Assistant Auditor, San Francisco.

D. W. Horsburgh, Auditor of Freight Accts., San Francisco.

G. D. Smith, Asst. Auditor of Freight Accts., San Francisco.

G. E. Bissonnet, Auditor of Pass. Accts., San Francisco.

R. Adams, Auditor of Disbursements, San Francisco.

O. F. Giffin, Auditor of Equipment Accounts, San Francisco.

J. M. Brewer, Freight Claim Agent, San Francisco.

#### TRAFFIC DEPARTMENT:

J. C. Stubbs, Traffic Director, Chicago.

E. O. McCormick, Asst. Traffic Director, Chicago.

P. C. Stohr, Asst. Traffic Director, Chicago.

[1132]

H. A. Jones, Freight Traffic Manager, San Francisco.

G. W. Luce, General Freight Agent, San Francisco.

T. A. Graham, Assistant General Freight and Passenger Agent, Los Angeles.

S. N. Bostwick, Asst. General Freight Agent, San Francisco.

C. J. Jones, Asst. General Freight Agent, San Francisco.

J. G. Stubbs, Assistant General Freight Agent, San Francisco.

**1456**      *The Southern Pacific Co. et al. vs.*

Chas. S. Fee, Passenger Traffic Manager, San Francisco.

Jas. Horsburgh, Jr., Gen. Passenger Agent, San Francisco.

R. A. Donaldson, Asst. Gen. Pass. Agent, San Francisco.

F. E. Batturs, Asst. Gen. Passenger Agent, San Francisco.

H. R. Judah, Asst. Gen. Passenger Agent, San Francisco.

R. B. Miller, Gen. Freight Agent, Lines in Oregon, Portland.

W. E. Coman, Asst. Gen. Freight Agent, Lines in Oregon, Portland.

W. D. Skinner, Asst. Gen. Freight Agent, Lines in Oregon, Portland.

Wm. McMurray, Gen. Passenger Agent, Lines in Oregon, Portland.

J. M. Scott, Asst. General Passenger Agent, Lines in Oregon, Portland.

E. B. Carson, General Baggage Agent, San Francisco.

H. P. Thrall, Mail Traffic Manager, Chicago.

**TRANSPORTATION DEPARTMENT:**

J. Kruttschnitt, Director of Maint. and Operation, Chicago.

W. B. Scott, Asst. Director of Maint. and Operation, Chicago. [1133]

W. A. Worthington, Asst. to Director of Maint. and Operation, Chicago.

(70)

TRANSPORTATION DEPARTMENT—Continued.

E. E. Calvin, Gen. Manager, Pacific System, San Francisco.

J. P. O'Brien, Gen. Manager, Oregon Lines, Portland.

W. H. Bancroft, Gen. Manager Line East of Reno, Salt Lake City.

W. R. Scott, Asst. Gen. Mgr. Pac. System, San Francisco.

J. H. Young, Gen. Supt. Northern District, San Francisco.

H. V. Platt, Gen. Supt. Southern District, Los Angeles.

M. J. Buckley, Gen. Supt., Oregon Lines, Portland.

Geo. F. Richardson, Supt. of Transportation, San Francisco.

Epes Randolph, Gen. Manager, Sonora Ry., Tucson.

F. S. Rawlins, Superintendent Telegraph, San Francisco.

H. J. Small, Gen. Supt. Motive Power, San Francisco.

C. W. Jungen, Mgr. Atl. Coast S. S. Lines, New York.

ENGINEERING DEPARTMENT:

Wm. Hood, Chief Engineer, San Francisco.

J. Q. Barlow, Asst. Chief Engineer, San Francisco.

G. H. Boschke, Chief Engr., Lines in Oregon,  
Portland.

John D. Isaacs, Consulting Engineer, Chicago.

**LAND DEPARTMENT:**

B. A. McAllaster, Land Commissioner, San Francisco.

C. C. Gibbs, Land Commissioner, San Antonio.

**SUPPLY DEPARTMENT:**

W. V. S. Thorne, Director of Purchases, New York.

Sidney Williams, Asst. Director of Purchases,  
New York.

I. O. Rhoades, Gen. Purchasing Agent, San Francisco.

H. C. Pearce, General Storekeeper, San Francisco.

[1134]

**MISCELLANEOUS:**

F. K. Ainsworth, Chief Surgeon and Hospital  
Manager, San Francisco.

D. Urquhart, Superintendent Commissary, San  
Francisco.

E. T. Dumble, Consulting Geologist, San Francisco.

G. L. King, Right of Way and Contract Agent,  
San Francisco.

(71)

**SOUTHERN PACIFIC RAILROAD CO.**

Incorporated, California, Arizona and New Mexico,

March 10, 1902, for 50 years.

. . . . .

(74)

First Mortgage Gold Bonds of S. P. R. R. Co., of California, of 1875, Series A to G, inclusive; authorized, \$46,000,000; issued, \$39,285,000; outstanding, \$5,111,000.

- E. Authorized and issued, \$5,000,000;  
dated April 1, 1882; due April 1,  
1912; outstanding..... \$ 3,147,000
- F. Authorized, \$5,000,000; issued,  
\$4,285,000; Dated April 1, 1882;  
due April 1, 1912; outstanding. 1,964,000
- G. Authorized, \$6,000,000; never is-  
sued.

Interest, 6 per cent., gold, payable April and October. Trustees, D. O. Mills, New York, and Homer S. King, San Francisco.

Southern Pacific Branch Railway First Mortgage Gold Bonds: authorized, \$9,000,000; issued, \$3,578,000; dated April 1, 1887; due April 1, 1937; outstanding, \$3,533,000. Interest, 6 per cent., gold, payable April and October. Trustee, Union Trust Company of San Francisco.

Southern Pacific R. R. of California, First Consolidated [1135] Mortgage Gold Bonds of 1893; authorized, \$58,000,000; issued \$28,766,000; dated September 15, 1893; due November 1, 1937; outstanding \$4,127,500. Interest 5 per cent., gold, payable May and November. Trustee, Central Trust Company of New York.

(75)

Northern Railway First Mortgage Gold Bonds of

1888: authorized, \$21,000,000; issued and outstanding, \$4,751,000; dated October 1, 1888; due October 1, 1938. Interest, 5 per cent., gold, payable April and October. Trustee, Union Trust Company of New York.

Northern California Railway First Mortgage Gold Bonds; authorized, \$1,100,000; issued and outstanding, \$1,074,000; dated November 1, 1899; due November 1, 1929. Interest, 5 per cent., gold, payable June and December. Trustee, California Safe Deposit & Trust Co., of San Francisco.

California Pacific R. R. First Mortgage Gold Bonds; authorized and issued, \$2,250,000; outstanding, \$2,232,000; dated January 1, 1867; due January 1, 1912. Interest  $4\frac{1}{2}$  per cent., gold, payable January and July. Trustees, Jas. O'B. Gunn and Chas. E. Green, both of the City of San Francisco, Cal.

California Pacific R. R. Second Mortgage Gold Bonds; authorized and issued, \$1,600,000; outstanding, \$1,595,000; dated August 9, 1871; due January 1, 1911. Interest  $4\frac{1}{2}$  per cent., gold, payable January and July. Trustees, Jas. O'B. Gunn and Chas. E. Green, both of the City of San Francisco, Cal.

Southern Pacific R. R. (of Arizona) First Mortgage Gold Bonds: authorized and issued, \$10,000,000; outstanding; Series B, \$4,000,000; dated March 1, 1880; due March 1910. Interest 6 per cent., gold, payable January and July. Trustees, I. W. [1136] Hellman and Union Trust Company, both of the City of San Francisco, Cal.

Southern Pacific R. R. of New Mexico First Mort-

gage Gold Bonds: authorized, \$5,000,000; issued and outstanding \$4,180,000; dated January 1, 1881; due January 1, 1911. Interest 6 per cent., gold, payable January and July. Trustees, I. W. Hellman and Union Trust Company, both of the City of San Francisco, Cal.

Southern Pacific R. R. First Refunding Bonds: authorized \$160,000,000; issued, \$108,353,000; outstanding, \$108,303,000; dated January 3, 1905; due January 1, 1955. Interest 4 per cent., January and July. Trustee, The Equitable Trust Co. of New York.

DIRECTORS (11), elected April 12, 1910:

F. K. Ainsworth, San Francisco.

E. E. Calvin, San Francisco.

I. W. Hellman, San Francisco.

Wm. F. Herrin, San Francisco.

Wm. Hood, San Francisco.

Wm. Mahl (Mch 16, 1910), New York.

E. O. McCormick (Jan. 12, 1911), San Francisco.

R. S. Lovett, New York.

C. H. Redington, San Francisco.

W. R. Scott, San Francisco.

Jas. K. Wilson, San Francisco. [1137]

(76)

Wm. Hood, Chief Engineer, San Francisco.

Alex. Millar, Transfer Agent, New York.

Joseph Hellen, Transfer Agent, New York.

Otto C. Kahn, Transfer Agent, New York.

W. H. James, Transfer Agent for Bonds, New York.

James Watkins, Transfer Agent for Bonds, New York.

Chas. P. Lincoln, Transfer Agent for Bonds, San Francisco.

R. Troup, Transfer Agent for bonds, New York.

B. A. McAllaster, Land Commissioner, San Francisco.

Alfred S. Donaw, Statut'y Agt. in Arizona, Tucson.

J. A. Mahoney, Statutory Agent in N. Mexico, Deming.

(In black typewriting)

**OFFICERS:**

R. S. Lovett, Prest., N. Y.

Wm. F. Herrin, V. P., S. F.

E. E. Calvin, 2nd V. P., S. F.

E. O. McCormick, 3rd V. P., S. F.

Wm. Mahl, 4th V. P., N. Y.

C. H. Redington, 5th V. P., S. F.

Wm. Mahl, Comptroller, N. Y.

A. K. Van Deventer, Treas., N. Y. [1138]

C. H. Redington, Asst. Treas., S. F.

G. L. King, Secty., S. F.

Alex. Millar, Asst. Secty., N. Y.

Jos. Hellen, Asst. Secty., N. Y.

C. P. Lincoln, Asst. Secty., S. F.

A. D. McDonald, Auditor, S. F.

Wm. Hood, Chief Engr., S. F.

It is stipulated between the counsel for the respective parties to this cause that the several manuals herein offered in evidence and marked respectively

as Plaintiff's Exhibits "III" to "PPP", inclusive, may, for their proper care and preservation, be withdrawn by counsel for the defendants herein, to be by them returned at any time into court when the same are required for further examination.

Mr. Lewers—That is agreeable to us, with the understanding that all of these manuals will eventually be returned to our possession and that we are to produce them in court only during such time as they may be needed there.

Mr. Mills—You mean before the trial court?

Mr. Lewers: Yes.

Whereupon the further taking of testimony herein was adjourned until Wednesday, July 31, 1912, at 3 o'clock p.m. [1139]

On Wednesday, July 31, 1912, at three o'clock p.m., the further taking of testimony herein was, by agreement and consent of counsel, adjourned until Thursday, August 1st, 1912, at ten o'clock a.m., at the same place; and at said last-mentioned time, Willis N. Mills, Special Assistant United States Attorney General, appeared before the special examiner and the following proceedings were had:

Mr. Mills—I desire to announce, Mr. Examiner, that Mr. Hoehling, counsel for all the defendants except the Equitable Trust Company of New York, was subpoenaed to produce certain papers desired by the Government, at 10 o'clock of this day, and that upon telephonic request from Mr. Lewers, acting for Mr. Hoehling and the defendants, it has been agreed upon my part, without waiving any rights under the

Government subpoena referred to, and because of the alleged voluminous bulk of papers necessary to be examined in order to comply with the subpoena, to go to Mr. Hoehling's office and informally examine the papers, in order to eliminate unnecessary documents; and I therefore suggest that a continuance of the hearing be had until Friday, August 2d, 1912, at ten o'clock a.m., at the same place.

Whereupon, the further taking of testimony herein was adjourned until the time and place named.

On Friday, August 2d, 1912, at ten o'clock a.m., the further taking of testimony herein was resumed, pursuant to the adjournment; Willis N. Mills, Special Assistant United States [1140] Attorney General, appearing on behalf of the plaintiff, and Charles R. Lewers, Esq., and A. A. Hoehling, Jr., Esq., appearing on behalf of the defendants.

Whereupon the following proceedings were had:

Mr. Lewers—Owing to the misunderstanding that has taken place concerning these records and letters, I would like to have it understood that demand was made by the Department of Justice, or some representative—

Mr. Mills—Pardon me for interrupting you. If you go into that question at all, I shall have to call Mr. Ambrose here and swear him.

Mr. Lewers—You are not disputing the fact that Mr. Hoehling notified Mr. Knaebel that these letters were here and the Department could have them, are you?

Mr. Mills—Is this all going into the record?

Mr. Lewers—It certainly is.

Mr. Mills—You can make your objection, and I shall take steps to put into the record what did happen. I don't regard it as at all essential. You can make the statement, if you wish, that you were willing at all times to give up these papers; but I don't want to have testimony going in unless it is under oath.

Mr. Lewers—As an attorney in the case, I claim the right to make statements as an attorney, and upon my oath as an attorney; and I am accustomed to have those taken at their face value, and I am not accustomed to make the other kind. [1141]

Mr. Mills—There is no necessity for you to make those remarks. I have as much respect for you probably, as you are entitled to, as an attorney. I regard this as a side issue. I am willing to take Mr. Hoehling's statement of the matter, but I do not wish to have your unsworn statements go into the record as testimony; and I serve notice on you now that if you persist in making them I shall meet them by producing witnesses to show it is not so.

Mr. Lewers—If you deny the accuracy of it, that is another story.

Mr. Mills—I won't deny anything as long as it is not raised. I am willing to take Mr. Hoehling's statement that he was willing to give up those papers.

Mr. Lewers—I merely asked you whether or not, before taking this testimony, you would not have the courtesy to admit that we had given you every opportunity to examine these papers and examine our

letter-books, page by page, and that we had informed the Department of Justice that these letters could be had, and that it was not necessary to get out a subpoena duces tecum; that we have extended to you favors you could not get under your subpoena duces tecum. That is all I desired to ask you—whether you would agree to have the record show that fact.

Mr. Mills—I will agree to have the record show that that statement was made both by you and Mr. Hoehling. and, I have no reason to contest that, because I regard it as immaterial, but, as I stated to you, I was told an entirely different story by the man who went over to get the papers. I don't want to put in issue the veracity of Mr. Hoehling, as you seem willing to do. I am willing to accept Mr. Hoehling's statement. [1142]

Mr. Lewers—That is all I want.

Mr. Mills—I am simply stating to you that I was told an entirely different story, namely, that the papers would not be given up without the consent of Mr. Evarts.

Mr. Hoehling—That is correct. But the consent was obtained.

Mr. Mills—It seems to me all this statement may go out of the record and the record state simply that upon request Mr. Hoehling was willing to give up the papers and allow us to examine them; that the special agent who went over there misunderstood Mr. Hoehling, or could not get the paper, and thereupon subpoena was issued, and upon issuance of the subpoena Mr. Hoehling exhibited the books to me.

Mr. Lewers—That is not exactly the way it occurred. Perhaps that statement is hardly fair to you, Mr. Mills. The fact, as it occurred, as I understand it, is that after Mr. Ambrose went over there, with some other gentleman whose name I have forgotten, and was informed that it was necessary to refer the matter to our general counsel in New York, Mr. Hoehling called up Mr. Knaebel, of the Department of Justice, and informed him that the papers were there, that they had asked for, and that he, Mr. Hoehling, would gladly turn them over to the Department of Justice for their examination. It is possible that owing to the absence of Mr. Knaebel this later message was not brought to your attention.

Mr. Mills—I didn't talk with Mr. Knaebel; but I was told that Mr. Hoehling very courteously called up Mr. Knaebel and said he had made diligent search and could not find the papers. [1143]

Mr. Hoehling—That is absolutely erroneous.

Mr. Mills—I accept your statement, Mr. Hoehling. You have come in with the papers, and I am willing to make that statement.

Mr. Lewers—My only object was to prevent the record from showing that we had absolutely refused, until compelled by subpoena duces tecum, to produce these papers.

Mr. Mills—I will accept that statement, unequivocally.

Mr. Lewers—That is all I want. At this time, in accordance with the stipulation entered into at the time certain manuals of the Southern Pacific Com-

pany were introduced in evidence, I desire to object to the introduction of the manuals, or, rather, to certain portions of them, as follows: I object to the introduction of all portions of these manuals other than the lists of subsidiary companies and names of officers of the Southern Pacific Company, Southern Pacific Railroad Company, and Kern Trading and Oil Company, on the ground that all of the other matter contained in these manuals, and, specifically, all the other matter con- in the portions of these manuals read into the record, are irrelevant and immaterial to any issue in this case, in that they concern companies, properties, and officers in no way connected with any of the issues in this case, and not parties to this case; and I specifically object to the introduction of those portions of these manuals concerning funded and other indebtedness, or mortgages, trust deeds, and so forth, contained in these manuals, on the ground that the matters contained in these manuals in regard to these subjects, and particularly [1144] contained in the portions of the manuals introduced and read into evidence, do not concern any of the issues in this case and do not refer to or belong to any of the defendants in this case, in that they do not concern, cover or in any way refer to the land in litigation in this case, to-wit, the land in township 30-23. I make the further objection that no foundation whatever has been introduced to show that the mortgage indebtedness of the Southern Pacific Railroad Company referred to in this evidence was in any way connected with this suit, or in any way connected

with any of the defendants in this suit in reference to the land in question, and that the introduction of this testimony is needlessly encumbering the record. For all of the foregoing reasons I also move that this testimony, with the exceptions noted, be stricken from the record.

Mr. Mills—To be clearly understood, I will ask you whether your objection goes to that portion of the manuals introduced to show the control by the Southern Pacific Company, the Kentucky corporation in this suit, of the Southern Pacific Railroad Company, the other defendant, by stock ownership, to the extent of showing the lack of fiscal autonomy on the part of the Southern Pacific Railroad Company.

Mr. Lewers—I don't know that I know what you mean. The objection excepts those portions of the manuals which refer to auxiliary companies, lists of auxiliary companies.

Mr. Hoehling—Of which the Southern Pacific Railroad Company appears to be a part of the list in the manual.

Mr. Lewers—As I understand it, each of the manuals shows that the property of the Southern Pacific Company is operated by the Southern Pacific Railroad Company—that is, [1145] certain property is—under a lease; and that the Southern Pacific Company owns a majority of the stock of the Southern Pacific Railroad Company. Insofar as that part of the exhibits is concerned, I have no objection.

Mr. Mills—I am going to ask you, Mr. Lewers and Mr. Hoehling, whether these letter-press books, which

purport to be copies of letters written by D. A. Chambers, resident attorney, formerly, for the Southern Pacific Railroad Company, contain the letters that were actually written by Mr. Chambers; that is, will you admit those are his signatures?

Mr. Lewers—Yes.

Mr. Hoehling—So far as I know. There were delivered to me as the books that he kept.

Mr. Lewers—I think that there is no doubt about it.

Mr. Hoehling—No doubt at all.

Mr. Mills—May I have the volume containing the letters written in 1903?

Mr. Lewers—That is volume 61. That volume has most of them in. (Letter-press copy-books handed to counsel for plaintiff).

Mr. Mills—I ask you, Mr. Hoehling, whether these letter-press copy-books, numbered 61, 62 and 63, came into your possession as an attorney for the Southern Pacific Railroad Company from the office of the late D. A. Chambers, who was, during his lifetime, the resident attorney in this city of the same company?  
[1146]

Mr. Hoehling—They did. Mr. Chambers died, I think, in perhaps August, 1907. I was appointed attorney for the Southern Pacific Company in, perhaps, February or March of 1908. Some weeks after my appointment, these letter-press copy-books, together with others, were brought to my office and delivered to me by Mr. John B. Bloss, who for many

years had been the assistant to Mr. Chambers in that business.

Mr. Mills—And all of the letters which on their face purport to indicate that Mr. Chambers wrote them or signed them, were, in your opinion, written and signed by Mr. Chambers?

Mr. Hoehling—They were.

Mr. Mills—I offer in evidence letter-press copy of letter dated October 12, 1903, addressed to Charles W. Eberlein, acting land agent of the Southern Pacific Railroad Company, signed by Mr. D. A. Chambers, found on page 272, and will read the same into the record of the case.

Mr. Lewers—I desire to offer the general objection to the introduction of this letter, and ask that it be considered as made, without repetition, to all succeeding letters contained in these books, that the testimony is without sufficient foundation at this time, in that, if these letters can have any purpose at all, the purpose is to question the official act of the Commissioner of the General Land Office in releasing from suspension the lands embraced within township 30 23, that is, the lands included in this suit, which official action was evidenced by certain [1147] letters transmitted by the General Land Office and the Commissioner thereof to the local United States land office at Visalia, California, in the months of February and April, 1904. The objection is directed specifically to the fact that no foundation has been laid to show that the Commissioner of the General Land Office, acting in his quasi-judicial capacity in passing

upon this matter, was in any way prevented, or that the instrumentalities of his office were in any way hindered so as to prevent him, from reaching a judicial or quasi-judicial, determination of the matters contained in these letters, and that the testimony now offered, is offered, if for any purpose, apparently to question the official significance of the acts and letters of the Commissioner of the General Land Office.

Mr. Mills—After this somewhat loquacious objection I suppose I ought to illuminate the mind of counsel so far as my purpose goes, by stating that the purpose of the introduction of these letters is to show knowledge on the part of the Southern Pacific Railroad Company of the mineral character of these lands at a time when they were selected as agricultural lands under an agricultural grant.

Mr. Lewers—I am glad to know that that is the purpose of the offer.

The letter last referred to and read in evidence is as follows: [1148]

Visalia Application List 44, primary limits;

“ “ “ 87, indemnity “

October 12, 1903.

Charles W. Eberlein, Esq.,

Acting Land Agent Southern Pacific R. R. Co.,  
San Francisco, California.

Dear Sir:

The Southern Pacific Railroad Co. tendered the above lists to the Register & Receiver, and they rejected them because said lands, with a large body of other lands, were suspended from further disposition

by the telegraphic order of the Commissioner of the General Land Office of February 28, 1900, which order was issued because of allegations that the lands contained petroleum.

Mr. Madden took an appeal from the action of the R. & R. as to each of these lists and asked a hearing.

We are continually running up against this order of the Commissioner of the General Land Office in respect to lands within the Southern Pacific grant which have been listed or selected, or which the Company desires to list or select.

Of course nothing can be done here towards getting patents, or the approval of our lists by the R. & R., (for lands within the order), until this order is revoked, and the Commissioner will not revoke it as to any lands until the Special Agent has reported that the lands do not contain petroleum.

Special Agent E. C. Ryan (headquarters at Los Angeles, Cala.), has charge of the examination of these [1149] lands. He was here recently, and his attention was directed to the matter, and he was urged to go over the lands and make his report as rapidly as possibly.

In looking through our pending Visalia lists, I came across the two named in the caption, and on the 7th instant, I addressed a letter to the Commissioner calling his attention to the lands in these lists, and asking that he direct his Special Agent to report on them at the earliest possible date. It may be that you can hasten Mr. Ryan's report. If he reports that

the lands on these lists are non-mineral, (do not contain petroleum), I can then ask to have these two lists returned to the R. & R. for approval.

On the other hand, if he reports that they are petroleum lands, I will then ask that a hearing be ordered in accordance with Mr. Madden's appeals. The hearing, of course, will be an expense to the Railroad Company.

Yours truly,

(Sgd) D. A. CHAMBERS.

Mr. Mills—I next offer in evidence letter-press copy of letter found at page 274 of the letter-press copy-book, dated October 12, 1903, addressed to J. Kruttschnitt, Fourth Vice-President of the Southern Pacific Company, signed by D. A. Chambers, which I will read into the record as follows:

Survey of part of Township 30 S. Range 23 E.,  
M. D. M., Visalia Land district, California,  
Plat Approved August 1, 1902. [1150]

October 12, 1903.

J. Kruttschnitt, Esq.,

4th Vice President, Southern Pacific Co.,  
San Francisco, California.

Dear Sir:

I have received your letter, dated New Orleans the 9th inst., in relation to the above survey, with copy of Mr. Charles W. Everlein's letter to you of the 26th ult., and copy of your telegram to him in reply, dated New Orleans the 9th inst.

I find that the plat of part of the above township,

approved August 1, 1902, embraces Sections 15, 17, 19, 21, 23, 25, 27, 29, 33 and 35.

The Southern Pacific Railroad Co. has received a patent for the NW $\frac{1}{4}$  Sec. 17, and the NW $\frac{1}{4}$  of Sec. 19, T. 30 S., R. 23 E., under plat approved March 19, 1856, but has not received patent for any of the lands covered by the plat approved August 1, 1902, all of which lie within the indemnity limits of the main line grant.

Mr. Eberlein says that no selection of any of these lands had, when he wrote, been made by the Southern Pacific R. R. Co., but that he expected to tender a selection list within a week or ten days from the date of his letter to you, and he suggested that you might ask that special attention be given here to the patenting of this list.

As soon as advised that such list has been transmitted by the R. & R. to the General Land Office, I will, at the earliest possible date urge the issuing of a special patent for the lands selected. [1151]

(I endeavor to get the earliest action practicable by the General Land Office upon all lists of the Southern Pacific Railroad Co. as well as upon the lists of our other railroad companies. I am every day at work upon these lists. But the land Office is pretty slow.)

Please call Mr. Eberlein's attention to the fact that the Commissioner of the General Land Office, by his telegraphic order of February 28, 1900, to the R. & R. at Visalia, suspended from disposal the lands

in T. 30, S., R. 23 E., together with the lands in a great many other townships, upon allegations that the said townships contained petroleum.

Upon inquiry today I find that this withdrawal order as to T. 30 S., R. 23 E., has not been revoked, and will not be until a Special Agent has reported that said lands are not petroleum lands.

Mr. E. C. Ryan (Office at Los Angeles, Cal.), is the Special Agent who has been directed to report upon a large body of lands in the Visalia land district, embraced in the Commissioner's order above referred to. Mr. Ryan has been here lately, and has been urged by officials of the Land Office to report, as rapidly as possible, upon the townships involved.

I presume the Register and Receiver may not approve the lists of the lands in this township which Mr. Eberlein has tendered or will tender, because of the Commissioner's aforesaid order of February 28, 1900. If Mr. Eberlein will write me just what lands he desires to select in T. 30 S., R. 23 E., I can ask the Commissioner of the General Land [1152] Office to direct Special Agent Ryan to examine said lands as quickly as possible and make special report as to their character.

I desire to say further that action is not taken by the General Land Office upon an indemnity list of a railroad company until the expiration of three or four months from the date of the approval of the list by the R. & R. For instance, if the R. & R. approve an indemnity list of the Southern Pacific R. R. Co., Visalia District, October 14, 1903, the land office here

will not take up such list with a view to patenting the lands before the January, 1904, monthly returns of the Visalia Office have reached here (and been posted on the tract books). This is a standing rule, prescribed by the Secretary of the Interior, and the reason of it is, that if a homesteader should settle on a tract October 14, 1903, he has three months in which to file his Homestead Application at Visalia, and the General Land Office hold that they cannot determine that our selections are free from adverse claims until the January returns are received.

I inclose a copy of this letter, in case you may wish to hand it to Mr. Eberlein.

Yours truly,

(Sgd) D. A. CHAMBERS.

Mr. Mills—In the letter just read into the record there is a reference made by Mr. Chambers to a letter from J. Kruttschnitt to Mr. Chambers, dated at New Orleans, October 9, 1903, in relation to the survey discussed in [1153] the letter, also a copy of a letter to Mr. Kruttschnitt mailed to Mr. Chambers written by Charles W. Eberlein and dated September 26; also a copy of a telegram sent by Mr. Kruttschnitt to Mr. Eberlein in reply to that letter, dated New Orleans, October 9, 1903. Have you those letters and telegrams, Mr. Hoehling, among the papers which were turned over to you?

Mr. Hoehling—Upon the receipt of the records, papers and letter-press copy-books from the office of Mr. Chambers under the circumstances that I have already described, I found that they were in very bad

shape, the papers not being assembled with reference to subject-matter or in reference to particular lists, but just a jumble of papers that were deposited on the floor of my back office. For some considerable time thereafter I caused those papers to be carefully assorted and arranged with reference to subjects—lists, matters of that kind—and appropriately filed away. Neither one of the letters that you have just referred to was found by me among the papers so turned over; and I might add that since you have been here and since I have talked with you, I have, personally and through Mr. Ogilby, my assistant, caused careful search to be made to see that if the letters were anywhere in Mr. Chambers' records and I have failed to discover any with the exception of one letter, dated December 10, 1903, from Mr. Eberlein to Mr. Chambers and which I have explained to you I have heretofore turned over to Mr. Lewers.

Mr. Mills—That was mailed to Mr. Lewers, was it?  
[1154]

Mr. Hoehling—No. When Mr. Lewers came here Saturday morning of last week, he asked me to let him have the letter-press copy-book or books and any letters pertaining to that which I had among the Chamber files. I turned the books over to him, and that one letter, and Mr. Lewers afterwards advised me he had sent that to the San Francisco office.

Mr. Lewers—We are now engaged in an effort to locate the specific letters you have referred to as having been written to Mr. Kruttschnitt, and also any other letters that are referred to, and the search is

being made in all possible directions that occur to us for these letters, and we will endeavor to locate them if we possibly can.

Mr. Mills—Do I understand the statement that you make includes a reference to all original letters or copies of letters transmitted to Mr. Chambers?

Mr. Lewers—Yes.

Mr. Mills—Wherever found in these letter-press copies?

Mr. Lewers—Yes.

Mr. Mills—Wherever reference is made to them in these letter-press copies?

Mr. Lewers—Yes sir.

Mr. Mills—I offer in evidence letter-press copy of a telegram dated October 19, 1903, from D. A. Chambers to Charles W. Eberlein, found at page 303 of this volume, which I will read into the record as follows:  
[1155]

October 19, 1903.

Telegram:

Charles W. Eberlein,

Acting Land Agent Southern Pacific R. R. Co.,  
San Francisco, Cal.

Think you should immediately select lands in Township thirty South, Range Twenty-three East and if local officers refuse list, appeal to Commissioner. This ought to be protection against adverse claimants filing or alleging settlement later than our selection. Right of railroad company to indemnity

lands is determined by their status at date of selection.

(Sgd) D. A. CHAMBERS.

Ans. to D.H. 76 Ch 7 G Ny Oct. 18, 1903.

Mr. Mills—I offer in evidence letter-press copy of a letter dated October 24, 1903, addressed to Mr. Charles W. Eberlein, acting land agent of the Southern Pacific Railroad Company, signed by D. A. Chambers, found at page 332 of this volume, which I will read into the record, as follows:

Visalia Application List No. 87, indemnity limits—

Lands in Tp. 32 S., R. 25 E., M. D. M.

Visalia Application List No. 44, primary limits—

Land in Sec. 1, T. 30 S., R. 23 E., M. D. M.

Charles W. Eberlein, Esq. Oct. 24, 1903.

Act. Land Agt. So. Pac. R. R. Co.,

San Francisco, Cal.

Dear Sir:

Referring to my letter of the 12th inst., and your reply of the 17th inst., I would say that I am now in receipt of a [1156] letter from the Assistant Commissioner of the General Land Office, dated the 23d inst., in which he says that an investigation of the lands applied for in the above lists will be made by a Special Agent, and, upon receipt of his report, appropriate action will be taken upon the applications of the Southern Pacific R. R. Co.

In reply to your telegram of the 18th inst., in respect to other lands in T. 30 S., R. 23 E., I wired you on the 19th inst., that I thought you should tender an indemnity selection list for such lands, not-

withstanding that township is now suspended from entry on account of allegations that it contains petroleum, and that if the R. & R. refuse to accept the list you should take an appeal to the Commissioner.

Yours truly,

(Sgd) D. A. CHAMBERS.

Mr. Mills—I offer also in evidence and read into the record a letter-press copy of a cipher telegram, dated November 30, 1903, from D. A. Chambers to Charles W. Eberlein, of which the translation is as follows, found at page 430 of this volume:

November 30, 1903.

Telegram:

Charles W. Eberlein,

Acting Land Agent Southern Pacific R. R. Co.,  
San Francisco, California.

Oblong dawdler appeal to bitterful from rejection by Register and Receiver, Visalia, of Indemnity List eighty-nine selecting lands in town thirty south, range twenty-three east [1157] idle recreant advising this course.

(SGD) D. A. CHAMBERS.

DH10301

Translation of cipher telegram Nov. 30, 1903, to C. W. Eberlein.

Your letter 24th. I think you should appeal to Commissioner General Land Office from rejection by R. & R., Visalia, of Indemnity List 89, selecting lands in town 30 South, Range 23 East. See my letter October 24th advising this course.

Mr. Mills—My offer also includes the letter-press copy of a letter written by D. A. Chambers to Charles W. Eberlein, dated December 10, 1903, found at page 451 of this volume, which I will read into the record as follows:

Visalia Application List No. 89.

Tracts in T. 30 S., R. 23 E., M. D. M.

December 10, 1903.

Charles W. Eberlein, Esq.,

Actg. Land Agent, So. Pac. R. R. Co.,

San Francisco, California.

Dear Sir:

Referring to previous correspondence in respect to this application list, and to my telegram to you of the 30th ult., I would say that on the same date, I wrote a letter to the Commissioner of the General Land Office, and requested that he have an investigation made by a Special Agent of his office without delay of the lands named in this application list.

I am now advised by his letter of the 10th inst., that he has directed such examination to be made. I presume the Special Agent is Mr. Ryan, but I am not advised positively about this. [1158]

If you learn that this agent reports to the Commissioner of the General Land Office, please be sure to advise me.

Yours truly,

(SGD) D. A. CHAMBERS.

Mr. Mills—I also offer in evidence letter-press copy of a letter dated December 16, 1903, addressed to the

Honorable W. F. Herrin, San Francisco, signed by D. A. Chambers, found at page 504 of the volume, which I will read into the record, as follows:

Visalia Main Line Indemnity List 89.  
Lands in Tp. 30 S., R. 23 E. M. D. M.

December 16, 1903.

Hon. W. F. Herrin,  
San Francisco, Cal.

Dear Sir:

I have your letter of the 9th instant, with copy of an appeal taken on behalf of the Southern Pacific Railroad Company from the rejection by the Register & Receiver of the above list, on the ground that the lands were suspended from disposition by Commissioner's telegram of February 28, 1900.

The Register & Receiver in rejecting said list conformed to the rulings of the Department in like cases.

This blanket suspension of February 28, 1900, on allegations that a large area of land in California contained petroleum, we endeavored to have the late Commissioner Hermann revoke, but the best he would do was to [1159] direct his special agents to examine and report on all lands within railroad limits in Southern California. We have never been able to learn that any report was ever made by the Special Agents.

As to the lands on this list 89, on the 30th ult., I requested the Commissioner to have an investigation of them made immediately by a Special Agent, and on the 10th inst. he advised me that a special agent had been instructed to examine and report on them.

On the same day I advised Mr. Eberlein of said action of the Commissioner.

It did not seem advisable to me that the Company at this time should take steps to get a hearing as to these lands, for if the Special Agent reports favorably, the lands would be released from suspension without expense to the Company, and if, as to any of the lands, his report shall be adverse, it will then be time enough for us to apply for a hearing as to such lands, with submission of affidavits in support of our application.

I will look after this appeal when received at the General Land Office from the Visalia local office.

Yours truly,

(SGD) D. A. CHAMBERS.

Mr. Mills—I also offer in evidence a letter-press copy of a letter from D. A. Chambers to Charles W. Eberlein, dated December 16, 1903, found at page 506 of this volume, which I will read into the record, as follows: [1160]

Visalia Main Line Indemnity List 89 for  
lands in 30 S., 23 E., M. D. M.

Appeal from decision of R. & R. rejecting  
said list.

Decmeber 16, 1903.

Charles W. Eberlein, Esq.,

Actg. Land Agt., Southern Pacific R. R. Co.,  
San Francisco, Cal.

Dear Sir:

I have received your letter of the 10th inst., in respect to the above application list, and the appeal

taken therefrom in behalf of the Southern Pacific R. R. Co.

I have also received from Mr. Herrin, with his letter of the 9th inst., copy of the said appeal.

I enclose herewith copy of my letter of this date to Mr. Herrin acknowledging receipt of the appeal.

Probably you have by this time received my letter of the 10th inst., in which I advised you that the Commissioner of the General Land Office had on the same day directed examination of the lands on this list to be made by a Special Agent. And I said I supposed this Special Agent is Mr. Ryan, but was not sure.

It makes no difference whether the appeal from a decision of the R. & R. is signed by you as Acting Land Agent of the Southern Pacific R. R. Co. or by M. Herrin or Mr. Singer as Attorney for the Company. That is a matter to be arranged between yourselves.

As to you having an interview with Mr. Ryan, Special Agent, I would say that if you meet him, I think it would be sufficient if you were to inform him that you have [1161] been advised by the Company's attorney in Washington that he has been directed to examine these lands and say that it would be very acceptable to the Company if he could make speedy report.

Of course you will advise me immediately you know Mr. Ryan has made his report.

Yours truly,

(SGD) D. A. CHAMBERS.

Mr. Mills—I also offer in evidence a letter-press copy of a letter dated January 13, 1904, found at page 577 of this volume, addressed to Charles W. Eberlein, as acting land agent of the Southern Pacific Railroad Company, and signed by D. A. Chambers, which I will read into the record, as follows:

Visalia Main Line Indemnity List No. 89.

January 13, 1904.

Charles W. Eberlein, Esq.,

Acting Land Agent Southern Pacific R. R. Co.,  
San Francisco, California.

Dear Sir:

I received yesterday your letter of the 6th inst., in which you say that my action in respect to the lands in the above named list 89 has not been in accordance with the suggestion in your letter of the 10th ultimo.

Let me go back a little before taking up list 89:

I wrote you October 12th, 1903, concerning certain lands in Tps. 32 S., R. 25 E., and 30 S., R. 23 E., embraced [1162] in Visalia Application List 44, primary limits, and 87, indemnity limits, which have not been patented because said lands are embraced in orders of suspension issued by the Commissioner of the General Land Office February 21 and 28, 1900; and I said that October 7th I had requested the Commissioner to direct a Special Agent to examine and report on said lands as soon as possible.

On the 24th of October I advised you that the Assistant Commissioner October 23rd had directed a Special Agent to make an investigation of the said lands.

October 30th you acknowledged receipt of my last-mentioned letter, without raising any objection to the action requested by me and taken by the Assistant Commissioner.

Now as to Visalia Main Line Indemnity List 89, covering lands in T. 30 S., R. 23 E., M. D. M. (also suspended by the Commissioner February 21 and 28, 1900), upon the receipt of your letter of November 24th, I took the same course as I had taken as to the lands in Visalia Lists 44 and 87, namely, on the 30th November I asked the Commissioner to direct a Special Agent to examine those lands in List No. 89, and report upon their character without delay.

On the 10th December I advised you of my letter of the 30th November to the Commissioner and of his reply to me of the 10th December, in which he said that he had directed a Special Agent to examine the lands.

Please bear in mind that these two requests for examination of specified lands by a Special Agent, were made and the action of the Commissioner taken, before I received your letter of December 10th, to which you now call attention. [1163]

Since the receipt of your said letter of the 10th December I have not made, and shall not make, any request for examination by a special agent of any suspended lands within the grant to the R. R. Co., unless you so request.

I have always followed, and always intend to follow, the action our Land Agents in California sug-

gest that I take here, unless, entertaining a different view of the best policy and having explained it to our Agents in California, they agree with me and change their instructions accordingly.

We are anxious to have the lands in list 89, and also those in Lists 44 and 87 patented to the Company. But inasmuch as patents cannot issue until the Commissioner relieves them from suspension, it seems to us that what has been done here will hasten the adjudication of lands as non-mineral and their patenting to the Company. That was my object.

If I had known your views when writing my letters of October 7th and November 30th to the Commissioner, I could have made said letters conform thereto, and asked action upon all suspended lands, without specifications of any. But the Commissioner's letter of December 10th to Special Agent Ryan, which, confidentially, I have been allowed to read, suggests that he now report whether there is any necessity for the continuance of the suspension of any of the lands in three districts; and this is apparently the kind of official action that you desired. The Commissioner says, substantially: [1164]

By letter of October 23, 1903, in the case of Ex-parte Southern Pacific R. R. Co., you were directed to examine the SE/4 Sec. 23, SW/4 Sec. 25, and SW/4 Sec. 27, T. 32 S., R. 25 E., and the SW/4 Sec. 1, T. 30 S., R. 23 E.

The Southern Pacific Railroad Co. has now requested that the following tracts be also examined in order that they may be relieved from suspension, and

made subject to selection by the Company. It is stated that nearly four years have elapsed since the order of suspension, and no mineral entries have been made. These lands are: All of Sec. 15, NE/4 and S/2 Sec. 17, NE/4 and S/2 Sec. 19, all of Sections 21, 23, 25, 27, 29, 33 and 35, T. 30 S., R. 23 E., M. D. M.

You are accordingly directed, when you make examination of the lands first described, to also examine the lands last mentioned and to promptly thereafter report as to whether same should be relieved from suspension.

“This office has no available force from which to assign you assistance at the present time. With this condition of affairs in view, you will make report based upon the examinations heretofore made, your knowledge of the lands remaining to be examined, and familiarity with the country generally, as to whether in your opinion there is any necessity for the continuance of the suspension of the lands in the Visalia, San Francisco and Los Angeles Districts, suspended by this office in 1900 and not reported upon, a list of which you have.”

Mr. Herrin wrote me on the 9th ult., and enclosed a copy of the appeal from the decision of the Register & Receiver rejecting Visalia Indemnity List No. 89, and, on the 16th December, I wrote him acknowledging receipt of the appeal [1165] and, on the same date I wrote you and enclosed a copy of my letter to Mr. Herrin.

I have endeavored to keep you promptly and fully advised as to everything that has been done here in

respect to this Visalia Indemnity List No. 89, as I have concerning all other matters relating to the Southern Pacific Railroad land grant.

Yours truly,

(SGD) D. A. CHAMBERS.

Mr. Mills—My offer also includes a letter-press copy of a letter dated February 13, 1904, found at page 678 of this volume, addressed to Charles W. Eberlein, acting land agent of the Southern Pacific Railroad Company, and signed by D. A. Chambers, which I will read into the record as follows:

Visalia Indemnity Application List No. 89—

Lands in T. 30 S., R. 23 E.

February 13, 1904.

Charles W. Eberlein, Esq.,

Act. Land Agent, So. Pac. R. R. Co.,

San Francisco, California.

Dear Sir:

Referring to your letter of the 21st ult., I now enclose herewith copy of the Commissioner's letter of the 11th inst., to the Register and Receiver at Visalia relieving from suspension as mineral the lands described therein in Tp. 30 S., R. 23 E., and Tp. 32 S., R 25 E., M. D. M.

Some of these lands were listed in Visalia primary limits List No. 44, and Visalia Indemnity List No. 87, which are the [1166] subjects of two other letters to you of this date, but the bulk of the lands mentioned in the Commissioner's letter, copy of which is enclosed, were attempted to be selected in Visalia Indemnity List No. 89, which, as you know, was re-

jected by the Register and Receiver and an appeal taken to the Commissioner from such rejection.

The Commissioner in his letter of the 11th inst. omitted to name Sec. 29, T. 30 S., R. 23 E., as a section now found to be non-mineral. He will write another letter to the Register and Receiver stating that said Section 29 has been relieved from suspension as mineral.

This Indemnity List No. 89 is in the Railroad Division of The General Land Office, but I have today requested that it be referred to the Mineral Division, and have asked the latter Division to take the same action in respect to List No. 89 as they have taken in respect to Lists Nos. 44 and 87. I am promised that this shall be done, and List No. 89 returned to the Register and Receiver within a day or two with instructions to approve the same.

Yours truly,

(SGD) D. A. CHAMBERS.

Mr. Lewers—That includes the exhibit with it, does it not? Is that the one that transmits a copy of the Commissioner's letter?

Mr. Mills—Yes. It will speak for itself.

Mr. Lewers—That is, the copy is offered also, is it, as well as the letter? [1167]

Mr. Mills.—No. I offer this letter. It refers to the copy. I have not the copy.

Mr. Lewers—The copy follows it immediately.

Mr. Mills—No; I don't offer the copy. I am going to offer a certified copy of this report.

Mr. Lewers—I shall object to the introduction of a

partial letter, or part of a letter, when the letter itself refers to the copy and the copy accompanies the letter. I ask that the copy also be made a part of the record.

Mr. Mills—I also offer in evidence a letter-press copy of a letter dated March 7, 1904, found at page 771 of this volume, addressed to Charles W. Eberlein, as acting land agent of the Southern Pacific Railroad Company, and signed by D. A. Chambers, which I will read into the record, as follows:

Visalia Indemnity Application List No. 89.

March 7, 1904.

Charles W. Eberlein, Esq.,

Actg. Land Agt. So. Pac. R. R. Co.,

San Francisco, California.

Dear Sir:

I have received your letter of the 29th ult., acknowledging receipt of various letters from me in respect to lands on the above list, which was returned by the Commissioner to the Register and Receiver on the 20th ult. for approval.

I presume you have, before this, obtained the approval of this list by the Register and Receiver. Kindly give me the date of the approval of the Register and Receiver and the date when they returned said list to the Commissioner. I will then be able in due course to request the patenting of the lands to the Company.

Yours truly,

(SGD) D. A. CHAMBERS. [1168]

Mr. Mills—I further offer, from page 774 of this

volume, a letter-press copy of a telegram, dated March 8, 1904, addressed to George A. Stone, land department, Southern Pacific Railroad Company, signed by Charles W. Eberlein. Now, I will ask counsel whether they will admit that that is the signature of Mr. Eberlein.

Mr. Lewers—I believe that is, as near as I know, Mr. Mills. I am familiar with his signature merely from examination of the correspondence; but from that I will state that I am satisfied that that is a copy of his signature, that is, a letter-press copy of his signature.

Mr. Mills—Very well. I will read the telegram last referred to and offered in evidence, as follows:

March 8, 1904.

TELEGRAM:

George A. Stone,

Land Department Southern Pacific R. R.,

Wells Fargo Express Building,

San Francisco, California.

Referring to your letter February 29th to Mr. Chambers regarding Visalia Indemnity List eighty-nine: Do not wait on motion of Register and Receiver at Visalia, but take active steps to have list eighty-nine approved as directed by Commissioner's letter. Notify Mr. Chambers by wire and by letter of date of approval of Register and Receiver and date when they returned the list to the Commissioner. Act promptly.

(SGD) CHARLES W. EBERLEIN.

DH 2083 [1169]

Mr. Mills—My offer also includes a letter-press copy of a telegram, addressed to Charles W. Eberlein, as acting land agent of the Southern Pacific Railroad Company, dated March 9, 1904, found at page 775 of this volume, which I will read into the record, as follows:

March 9, 1904.

TELEGRAM:

Charles W. Eberlein,

Actg. Land Agt. Southern Pacific R. R. Co.,  
San Francisco, Cal.

Your telegram 9th. Admitting that lands on Visalia Indemnity List eighty-nine are within six miles of mineral claims, time would be saved by immediate publication, as Commissioner would order publication after his office has examined list. Receiver also should approve that list. Why didn't he?

(SGD) D. A. CHAMBERS.

Ans to DH 326 ch jg ry March 8, 1904.

Mr. Mills—My offer also includes the letter-press copy of a letter dated March 15, 1904, found at page 791 of this volume, addressed to Charles W. Eberlein, acting land agent, and signed D. A. Chambers, which I will read into the record, as follows:

Visalia Main Line Indemnity List No. 89—  
Approved by the R. & R. Feb. 26, 1904,  
for 6109.17 acres.

March 15, 1904.

Charles W. Eberlein, Esq.,

Actg. Land Agt. So. Pac. R. R. Co., [1170]

San Francisco, California.

Dear Sir:

I have received your letter of the 8th inst., with all the enclosures therein referred to, including a copy of the above list. I will give due attention to the patenting of this list, but cannot make any progress with it until the May, 1904, returns from the Visalia Office have been received and posted on the tract books in the General Land Office.

I will pay here the costs of survey of such of these lands as may be clear listed.

You call my attention to the following errors in selections on said list:

The list reads:

North 77.40 acres of W/2 NE/4 Sec. 21, T. 30 S.,  
R. 23 E.

South 2.60 acres of W/2 NE/4 Sec. 21, T. 30 S.,  
R. 23 E.

You say that the foregoing should read:

North 77.40 acres of W/2 NW/2 Sec. 21, T. 30 S.,  
R. 23 E.

South 2.60 acres of W/2 NW/4 Sec. 21, T. 30 S.,  
R. 23 E.

You ask me to have these corrections made on the General Land Office copy of said list No. 89.

As the said list No. 89 is now being advertised, if the Visalia Land Officers follow the course pursued by other land officers in California, they will hold List

89 until after it has been advertised, when they will transmit it to the Commissioner with any protests that may be filed, if there be any. I suggest, therefore, that you have the foregoing corrections made now upon the list in the local land office and see that the correct description of the tracts in the above section 21 is put into the advertisement; otherwise the W/2 NE/4 Section 21 will now be advertised and, subsequently, we shall have to advertise the W/2 NW/4 said Section 21 before we can get a [1171] patent therefor.

Of course, if List No. 89 comes up to the General Land Office with the incorrect descriptions, above noted, I will ask to be allowed to correct the same; but I will not be permitted to do so until the Commissioner has referred the matter to the Register and Receiver and has been advised by them that the W/2 NW/4, Sec. 21 is clear to the Company.

2. In my letters to you of November 11 and 27, 1903, I called attention to various descriptions of selections in Los Angeles Indemnity List No. 96, main line, which the Land Office here objected to.

I find that the same kinds of descriptions have been numerously used in this Indemnity List No. 89, and I do not know how much trouble we shall have here on account of them. The two lines 31 and 32 on page 1 of List 89, selecting the W/2 NE/4 Section 21, above referred to, are in point. Instead of splitting these 80 acres into two pieces, there should have been one selection of the W/2 NE/4 Sec. 21—80 acres, and op-

posite thereto (bracketed) the two tracts aggregating 80.80 acres that are assigned as loss in lieu of which the selection is made.

As I said in my letters of November last, the Land Office insists that railroad selections shall be made entirely according to legal subdivisions.

I do not think you should attempt now to submit a new list 89 to the Register and Receiver making the selections properly, because we have already had a great deal of trouble with this list and it has now been approved by the Register [1172] and Receiver. I will get along with it as best I can when it comes up here.

But it will save considerable in advertising if you get the Register and Receiver to properly describe in the advertisement each selection, for instance: see that thy advertise the W/2 NW/4 Sec. 21, T. 30 S., R. 23 E., and the SE/4 NE/4 Sec. 23, T. 30 S., R. 23 E., etc.

Yours truly,

(SGD) D. A. CHAMBERS.

Cy. CWE., NY.

Mr. Mills—I offer also a letter-press copy of a letter dated April 11, 1904, found on page 981 of this volume, addressed to Charles W. Eberlein, signed by D. A. Chambers.

Mr. Lewers—I again ask that the copies referred to in that letter be made part of the record as part of the letter itself.

Mr. Mills—My offer is limited to the letter itself

without the copies. I will read the letter into the record, as follows:

Lands in the Visalia, San Francisco and Los Angeles Districts relieved from suspension on Account of containing mineral oil by Commissioner's letters of April 5, 1904.

April 11, 1904.

Charles W. Eberlein, Esq.,  
Acting Land Agt. So. Pac. R. R. Co.,  
San Francisco, Cal. [1173]

Dear Sir:

The Commissioner of the General Land Office, in February, 1900, suspended from entry, selection, etc., a large number of townships in California, because of allegations that they contain mineral oil.

On the 5th inst., he relieved a large number of these townships from suspension on that account. I enclose herewith copies of his letters of the 5th inst., to the Registers and Receivers at Visalia, San Francisco and Los Angeles.

Yours truly,  
(SGD) D. A. CHAMBERS.

Mr. Mills—I now offer in evidence a letter-press copy of a letter dated August 5, 1904, found at page 568 of the letter-press volume 62, addressed to Charles W. Eberlein as acting land agent, and signed by D. A. Chambers, which I will read into the record, as follows:

So. Pac. R. R. Visalia Main Line Indemnity List No. 89 for 6109.17 acres.

August 5, 1904.

Charles W. Eberlein, Esq.,  
Actg. Land Agt. So. Pac. R. R. Co.,  
San Francisco, Cal.

Dear Sir:

I duly received your letter of the 19th ult., requesting that I make certain corrections in assignments of lost lands for lands selected in the above list.

I wrote to the Commissioner of the General Land Office on the 25th ult., requesting permission to make such corrections, [1174] and enclosed to you a copy of my said letter.

This morning I am in receipt of a letter from the Commissioner, dated the 4th inst., in which he acknowledges receipt of my letter of the 25th ult., and says—

“In reply, I have to state that by office letter of even date, said list was sent to the local land office with instructions to return the same to the company in order that a new list may be filed properly describing the lands selected by legal sub-divisions and the errors referred to by you can be corrected.”

I immediately went over to the Land Office, hoping that this list had not actually been returned to the Register and Receiver, but found that it had been.

I enclose a copy of the Commissioner's letter of the 4th inst. to the Register and Receiver returning said list.

I told the Land Office that this list had been advertised and report had been duly made by the Register and Receiver that no protest or contest had been filed

during the period of publication, and that, therefore, I thought they should recall the list and let this one list go through as it is in the same condition as a great many Southern Pacific R. R. lists that have been accepted by the office here; but they seem to be a little stiff, and said that my attention had been called several times to mis-descriptions of selected tracts, and that they were not going to accept any more lists where such mistakes occurred; but they said that the lands having been advertised, they would not have to be re-advertised.

All they want is that a new list be presented, selecting tracts by their legal subdivisions, and, at the same time, you can make the corrections in the designations of losses as mentioned in your letter to me of the 19th ult.

You will remember that I wrote you upon the general subject [1175] of making selections by legal subdivisions November 27, 1903, I believe this list 89 had then been written, although it was not approved by the Register and Receiver until February 26, 1904.

Please advise me when the new list has been approved by the Register and Receiver and forwarded by them to the Commissioner of the General Land Office.

Yours truly,

(S) D. A. Chambers.

Mr. Mills—I offer, further, a letter-press copy of a telegram, addressed to Charles W. Eberlein by D. A. Chambers, dated August 18, 1904, found at page 593

of this volume, which I will read into the record, as follows:

August 18, 1914.

Telegram:

Charles W. Eberlein,

Actg. Land Agt. Southern Pacific R. R. Co.,  
San Francisco, California.

Yours thirteenth. Give list old number.

D. A. Chambers.

D.H. 11128

Mr. Mills—I offer, further, a letter-press copy of a letter dated August 18, 1904, found at page 594 of this volume, addressed to Charles W. Eberlein, acting land agent, signed by D. A. Chambers, which I will read into the record, as follows: [1176]

Visalia Main Line Indemnity List No. 89.

August 18, 1904.

Charles W. Eberlein, Esq.,

Actg. Land Agt. Southern Pacific R. R. Co.,  
San Francisco, California.

Dear Sir:

I have your letter of the 13th instant in the above matter.

I have wired you to-day as follows:

“Yours thirteenth. Give list old number.”

There is no need to raise in the Visalia Office the question as to whether the lands in said list had been advertised or not.

Have the local officers forward the list to the Gen-

eral Land Office and advise me when it is forwarded and I will look after it here.

Yours truly,

(S) D. A. CHAMBERS.

B.

Mr. Mills—I further offer a letter-press copy of a letter dated September 21, 1904, found at page 702 of this volume, addressed to Charles W. Eberlein and signed D. A. Chambers, which I will read into the record, as follows:

Re-arranged Visalia Indemnity List No. 89.

September 21, 1904.

Charles W. Eberlein, Esq.,

Actg. Land Agt. So. Pac. R. R. Co.,

San Francisco, California.

[1177]

Dear Sir:

I have received your letter of the 16th inst., and also copy of the above re-arranged list for 6109.17 acres, which re-arranged list was approved by the Register and Receiver on the 12th inst.

I note that the Register and Receiver transmitted this original re-arranged list to the Commissioner on the 14th inst. I will look it up, and as soon as it has reached the proper Division, will apply for the patenting of the land on said re-arranged list.

Yours truly,

D. A. CHAMBERS.

Mr. Mills—I further offer letter-press copy of a letter dated December 16, 1904, found at page 124 of volume 63, addressed to Charles W. Eberlein as act-

ing land agent, signed by D. A. Chambers, which I will read into the record, as follows:

Ack. Dec. 21/04                      Patent to So. Pac. R. R. Co.

December 16, 1904.

Charles W. Eberlein, Esq.,  
Actg. Land Agt. So. Pac. R. R. Co.,  
San Francisco, Cal.

Dear Sir:

I have mailed to you to-day under separate cover and frank of the General Land Office Patent No. 135, issued to the Southern Pacific R. R. Co., December 12, 1904, for 6109.17 acres, within the indemnity limits of its main line grant, which were selected in Visalia Indemnity List No. 89. [1178]

Please acknowledge receipt of this patent.

Yours truly,

(S) D. A. Chambers.

Mr. Mills—I think that completes all that we will offer from these letter-press books. I now offer in evidence a certified copy, exemplified under the seal of the General Land Office, of a telegram, dated February 28, 1900, addressed to the register and receiver, Visalia, California, signed Binger Hermann, Commissioner. Have you any objection to that, gentlemen?

Mr. Lewers—Before taking that up, I would suggest that while we are on the matter of the Chambers letters I put in the balance of the matter contained in these letter-books, which I desire, as cross-examination, to go in.

Mr. Mills— I do not concede your right to offer any papers or letters or proof at this state of the case.

Mr. Lewers—I propose to do it; so I will proceed.

Mr. Mills—It is a question for the examiner to decide.

Mr. Lewers—I offer in connection with the letters that Mr. Hoehling has produced here, originally coming from the possession of Mr. D. A. Chambers, attorney for the Southern Pacific Railroad Company, in order to complete the correspondence appearing in these letter-books on the part of Mr. Chambers, the following letters that were not offered by the Government; and I offer this in the nature of cross-examination for the purpose of making the entire matter complete as far as possible.

Mr. Mills—You had better make a ruling on that, Mr. Examiner. [1179]

Mr. Lewers—He has no power to.

Mr. Mills—He has power to make a ruling on the question of whether he will take this or not.

The Special Examiner—I will receive the evidence as in the nature of cross-examination.

Mr. Mills—My only objection is the irrelevancy of the papers, they not being connected with the case; and, further, because of incurring cost as being part of the Government's case; and, further, as being evidence offered entirely outside of the proper order of proof. It might be put in as part of the defendants' case.

Mr. Lewers—I offer first, in connection with the

letter of February 13, 1904, addressed to Charles W. Eberlein, appearing at page 678 of volume 61 of the Chambers letter-press copy-books, the copy of a letter signed by J. H. Fimple.

Mr. Mills—Take the statement, before that is done, that the copy referred to by Mr. Lewers I have here in my hands and am about to introduce it as a certified copy under the seal of the General Land Office.

Mr. Lewers: If you will agree that accompanying the letter written by Mr. Chambers to Mr. Eberlein on February 13, 1904, and appearing at page 678, there was a copy of letter of J. H. Fimple, Assistant Commissioner, addressed to the register and receiver of the Visalia Land office, dated February 11, 1904, I shall be content.

Mr. Mills—Yes. I have those. I am going to introduce those. I have them on my list.

Mr. Lewers—Will you agree that accompanying this letter there was a copy of that? [1180]

Mr. Mills—I will agree that if the letter states there was a copy, a copy was probably sent.

Mr. Lewers—The copy is copied in here.

Mr. Mills—Yes; I will agree it was probably sent, if it so states. I don't know the physical fact.

Mr. Lewers—Will you agree that in this book there appears a copy purporting to have accompanied it?

Mr. Mills—Yes.

Mr. Lewers—Then I will withdraw the offer of that letter, under the stipulation. I now offer a let-

ter, dated February 13, 1904, addressed to Charles W. Eberlein and signed D. A. Chambers, a letter-press copy of which appears at page 682 of volume 61 of the Chambers letter-press book, together with the copy of a letter signed by J. H. Fimple, addressed to the register and receiver of the Visalia land office, dated February 11, 1904, beginning at page 683, which I will read into the record, as follows:

Mr. Mills—I will admit that probably was sent.

Mr. Lewers—Well, you will admit that there appears in the Chambers letter-press book, in connection with the letter that I have referred to, a copy of what purports to be the Commissioner's letter of February 11, 1904, in quasi-contest 1998?

Mr. Mills—Yes.

Mr. Lewers—As it appears that the Government does not have a certified copy of this letter, I will read it into the record as follows:

Mr. Mills—We make the further objection to it that it is not certified in any way and merely appears to be a [1181] copy of a Commissioner's letter.

Mr. Lewers—I will read the letter last referred to and offered in evidence, into the record, as follows:

Visalia Indemnity List No. 87 for 480 acres,  
Quasi Mineral Contest 1998.

February 13, 1904.

Charles W. Eberlein, Esq.,  
Actg. Land Agt. So. Pac. R. R. Co.,  
San Francisco, Cal.

Dear Sir:

Referring to my letter to you of October 12, 1903,

I now enclose herewith copy of the Commissioner's letter of the 11th inst. to the Register & Receiver, advising them that the lands in the above list have been relieved from suspension as containing petroleum, and, therefore, returning to them the Company's above list for approval.

Please see that the Register & Receiver promptly approve this list and return it to the Commissioner, advising me when they do so.

Yours truly,  
(SGD) D. A. CHAMBERS.

Mr. Lewers—I also offer a letter appearing at page 685 of volume 61 of the Chambers letter-press book addressed to Charles W. Eberlein and signed D. A. Chambers, dated February 13, 1904, together with the accompanying copy of letter addressed to the register and receiver, Visalia land office, and signed J. H. Fimple, dated February 11, 1904, appearing at page 686 of the letter-press book, which I will read into the record, as follows: [1182]

Visalia Primary Limits List No. 44  
Quasi Mineral Contest No. 1997.

February 13, 1904.

Charles W. Eberlein, Esq.,  
Acting Land Agt., So. Pac. R. R. Co.,  
San Francisco, Cal.

Dear Sir:—

I enclose herewith copy of the Commissioner's letter "N" of the 11th inst., to the Register and Receiver at Visalia, advising them that Tp. 30 S., R. 23

E., M. D. M., having been relieved from the suspension ordered February 28, 1900, the Register & Receiver may now approve the above list for the SW/4 Sec. 1, T. 30 S., R. 23 E., 160 acres (being the entire list), and returning said list.

Will you please see that the Register and Receiver promptly approve this list, and return it to the Commissioner, advising me when they do so?

I wrote you about this list October 12th last.

Yours truly,  
(SGD) D. A. CHAMBERS.

**N**  
**ECF**

WOC  
HGP

Department of the Interior,  
General Land Office,  
Washington, D. C.

February 11, 1904.

**Southern Pacific R. R. Co., ex parte)**  
**Quasi Contest 1997**

Register and Receiver,  
Visalia, California.

Sirs: [1183]

October 23, 1900, the Southern Pacific R. R. Co. presented to your office for filing selection List No. 44, granted limits, for the Sw/4 Sec. 1, Tp. 30 S., R. 23 E., M. D. M., which selection was rejected by your office on the grounds that the lands applied for was situated in a township suspended by this office February 28, 1900.

December 7, 1900, the R. R. Co., filed an appeal from your said decision.

The said SW/4 Sec. 1 has by letter of even date been relieved from suspension and while your action in rejecting the list appears to have been correct in view of the then existing suspension there would appear now no objection to the allowances of said selection, which is herewith returned for appropriate action.

Quasi Contest No. 1997 is declared closed.

Very respectfully,

(SGD) J. H. FIMPLE,

Assistant Commissioner.

Mr. Lewers—I offer in evidence, also, a letter appearing at page 769 of volume 61 of the Chambers letter-press book, dated March 7, 1904, and addressed to Charles W. Eberlein, which appears to be unsigned.

Mr. Mills—I make the formal objection that it does not purport to emanate from any responsible source, not being signed, and no foundation laid to show who framed the letter.

Mr. Lewers—The letter last referred to and offered in evidence I read into the record, as follows:  
[1184]

Visalia Primary Limits List No. 44.

March 7, 1904.

Charles W. Eberlein, Esq.,

Acting Land Agt. So. Pac. R. R. Co.,

San Francisco, Cal.

Dear Sir:

I have received your letter of the 29th ult. in reference to the above list.

Will you kindly advise me under what date the Register and Receiver approved said list and returned it to the Commissioner of the General Land Office. I desire this information in order that I may ask to have the land patented to the Company.

Yours truly,

Mr. Lewers—I also offer in evidence a letter appearing at page 770 of volume 61 of the Chambers letter-press book, dated March 7, 1904, addressed to Charles W. Eberlein and signed D. A. Chambers, and will read the same into the record as follows:

Visalia Indemnity List No. 87.

March 7, 1904.

Charles W. Eberlein, Esq.,  
Actg. Land Agt. So. Pac. R. R. Co.,  
San Francisco, Cal.

Dear Sir:

I have received your letter of the 29th ult. in reference to the above list.

Will you kindly advise me under what date the Register and [1185] Receiver approved said list and returned it to the Commissioner of the General Land Office? I desire this information in order that I may ask to have the land patented to the Company.

Yours truly,

(Sgd) D. A. CHAMBERS.

Mr. Lewers—In connection with the letter appearing at page 981 of volume 61 of the Chambers letter-press book, dated April 11, 1904, addressed to Charles W. Eberlein and signed by D. A. Chambers, which

letter was introduced in evidence by the complainant, I now offer the copy appearing at page 982, of the letter, dated April 5, 1904, and signed by J. T. Macey as acting Land Commissioner, which letter is referred to in the letter appearing at page 981 offered by the complainant.

Mr. Mills—I have a certified copy of that letter and am going to offer it.

Mr. Lewers—Then, if you will agree that the certified copy of the original of this will be introduced in evidence, I will not read it into the record.

Mr. Mills—Certainly I am going to offer it.

Mr. Lewers—Is that the letter numbered 56802, 1904-N?

Mr. Mills—Yes; it is.

Mr. Lewers—I also offer, in connection with the letters introduced by the Government, a letter appearing at page 113 of volume 61 of the Chambers letter-press books, dated August 19, 1903, addressed to Jerome Madden, and signed by D. A. Chambers, together with the accompanying letter referred to in this letter, dated August 18, 1903, being file number 136739-1903-N, addressed to the register and receiver at Los [1186] Angeles, California, and signed by W. A. Richards, Commissioner, with reference to which and in connection with this offer I ask now that the Complainant produce either the original office copy of that letter retained in the General Land Office or a certified copy of the same.

Mr. Mills—Does this refer to any of the lands in the suit?

Mr. Lewers—The purpose of this offer is in connection with the other letters concerning examinations made of land by Government officials.

Mr. Mills—Well, does it refer to any of the land in this suit at all?

Mr. Lewers—I don't believe it does, specifically; in fact, I am sure it does not.

Mr. Mills—We object to the introduction of this fugitive copy of a supposed letter, because it relates to lands not involved in the suit at all, but to lands which are by actual measurement 80 miles south of the lands in controversy and about 50 miles to the west, and has no bearing whatever, in the opinion of counsel for the Government, upon this case. It is further objected to on the ground that it is apparently a letter-press copy of a copy of a copy of some letter purporting to have been sent to the Los Angeles land district from the General Land Office.

Mr. Lewers—The letters just referred to and offered in evidence I will read into the record, as follows: [1187]

Land in Tps. 1 S., R. 18, 19 and 20 W.,  
S.B.M.

Los Angeles Application Indemnity  
List No.

101. Branch Line.

August 19, 1903.

Jerome Madden, Esq.,  
Southern Pacific R. R. Co.,  
San Francisco, California.

Dear Sir:

Referring to your letter of the 5th inst., and my letters of the 10th and 13th inst., I now enclose herewith copy of the Commissioner's letter of the 18th inst., to the R. & R. at Los Angeles, revoking order of suspension of August 11, 1900, for Tps. 1 S., Ranges 16, 17, 18, 19 and 20 W., S.B.M.

This letter follows soon after the Commissioner's letter to me of the 12th inst., in which he indicated that investigation of these lands was still in progress.

You can now resubmit your Application List No. 101, if you deem proper.

Yours truly,

(Sgd) D. A. Chambers.

136739-1903-N

SMV

H.G.P.

EC.F

Department of the Interior,  
General Land Office,  
Washington, D. C.

Aug. 18, 1903.

Register and Receiver,  
Los Angeles, Calif.

Sirs:

By office letter of August 11, 1900, the land in townships [1188] 1 S., of ranges 16, 17, 18, 19 and 20 W., S.B.M., were suspended from disposition under the agricultural land laws upon allegation that same was valuable for its deposits of mineral (oil). February 13, 1902, you transmitted to this office in connection

with the record in case of the application of Jose Serrano to enter under the homestead laws a portion of Sec. 9. T. 1S., R. 20 W., a statement by Mr. H. W. Duncan to the effect that the suspension of said lands has resulted in hardships to settlers and to those desiring to settle upon the public domain and has served no good purposes and that notwithstanding the fact that considerable prospecting has been done no oil whatever has been discovered. Said record is also accompanied by a petition signed by Tom F. Swinney and four other persons who state that they are settlers in T, 1S., R. 20W. and requesting that the order of suspension be revoked for the reason that the lands withdrawn are non-mineral in character and have no value except for farming and grazing purposes.

Mr. A. W. Marsh of Los Angeles, has filed in this office a number of statements to the effect that the lands in question are of no value except for their deposits of mineral and that if the order or suspension is allowed to remain the mineral prospectors will be enabled to enlist capital to assist in the development of the deposits of mineral therein contained, but if the order of suspension is revoked it will be impossible to obtain money to complete the work. The statement is accompanied by several affidavits from persons who state that they are familiar with the lands in question and that in their opinion the whole district is essentially mineral except a few tillable spots now occupied by homesteaders. [1189]

Acting under instructions received from this office, a special agent visited the land in question dur-

ing the month of July, examined same and interrogated a number of persons resident in the vicinity obtaining their affidavits as to the character of the land and other facts pertinent to the investigation.

The Special Agent now reports that careful inquiry of persons resident in the vicinity failed to elicit anything which would show that the lands have any value for oil or minerals of any kind. One well was bored in T. 1S R. 20 W., some time ago but instead of oil water was found and the well was abandoned. He also found in Sec. 27, T 1S., R. 17 W., upon the homestead claim of John Henry an incline of about 100 feet and a shaft fifteen feet in depth in none of which was any discovery of oil or mineral made. He further reports that he did not find, in any portion of the townships hereinbefore described any oil seepage, oil springs, surface or other indications of oil or mineral which would warrant the lands being classed as mineral in character. The only indication of oil he discovered was a slight coating in some small wells or seams of hard rock on the homestead claim of John Henry. But the prospecting in which Mr. Henry is engaged has to this time failed to result in the discovery or development of oil or minerals of any kind. The said report is accompanied by the affidavits of a number of persons resident near the lands who state that in their opinion no discovery of mineral sufficient to warrant the continuance of the order of suspension have been made upon the lands in question; that while the land is rough and broken there are numerous fertile and

tillable valleys while [1190] the mountain sides will afford grazing for cattle thus making the land more valuable for agricultural and grazing purposes than for mineral.

The Special Agent also forwards an affidavit made by Mr. A. W. Marsh which states in a general way that he has examined the lands in question and found oil seepages deposits of shale, etc. which indicate that the township is underlaid by deposits of oil.

Upon careful consideration of the whole matter, the conclusion is reached that the public interest will be best subserved by a removal of the order of suspension from said land. The said order of suspension, made August 11, 1900, was intended to be temporary only, giving the prospectors time to explore and develop the district and it would appear that ample time has elapsed within which to have demonstrated the existence of mineral therein, if any does exist. It would appear, however, from the statement of the special agent, that all attempts to bore for oil have resulted in failures and that no indication of the existence of valuable deposits of mineral have been found therein. The said order of suspension of Aug. 11, 1900, is accordingly hereby revoked. Make the proper notations upon your records.

Very respectfully,

(Sgd) W. A. Richards,

Commissioner.

Mr. Lewers—I also offer a letter appearing at page 226 of volume 61 of the Chambers letter-press book, dated September 22, 1903, addressed to Charles W.

Eberlein and [1191] signed by D. A. Chambers; and, together with this, I offer and read into the record—

Mr. Mills—I want to object to your reading anything into the record until the matter is submitted to me to see if I have any objection.

Mr. Lewers—Your objection may be considered as being made before the reading.

Mr. Mills—I don't know that I want to make any objection.

Mr. Lewers—Together with this I offer and read into the record a copy of a letter—

Mr. Mills—I object to counsel reading anything into the record until it is submitted to counsel for the Government for the purpose of enabling him to make any objections which we may want to make.

Mr. Lewers—copy of letter dated September 22, 1903, being file Number 148773-43, addressed to the register and receiver, Visalia, California, and signed by W. A. Richards, Commissioner, and now handed to counsel for the Government; and in connection with that offer I ask for the production of the original copy of that letter retained by the Commssioner of the General Land Office, or a certified copy thereof.

Mr. Mills—The Government objects to the introduction of this alleged letter-press copy of a copy of a copy of a letter relating to lands in a township 12 miles distant from the lands in controversy, as having no bearing whatever upon the issues in this case; and, further, moves that all of the letters heretofore introduced at this hearing by counsel for the defen-

dants be stricken from the record, as being introduced out of order and without any foundation whatever for disturbing the [1192] order of proof.

Mr. Lewers—In reply to the last suggestion, I desire the record to show that, in the normal course of events, on cross-examination we would be authorized to introduce all correspondence referring to the matters introduced on the direct examination, and that the fact that counsel for the Government has very courteously extended to Mr. Hoehling, an attorney in this case, the privilege of having his statement accepted, cannot have the effect of denying the defendants in this case the ordinary rights and incidents of a cross-examination. The letters last referred to and offered in evidence I will read into the record, as follows:

Visalia Indemnity List No. 48;  
Bruns and Clarke v. S. P. R. R. Co.

---

Sept. 22, 1903.

Charles W. Eberlein, Esq.,  
Actg. Land Agt. So. Pac. R. R. Co.,  
San Francisco, California.

Dear Sir:

The Southern Pacific Railroad Co. selected in above list all of fractional section 1 and the NE/4 of Sec. 11 T. 30 S., R. 21 E., M. D. M.

In Patent No. 31, dated January 25, 1896, the above lands were included.

By township plat, approved April 27, 1869, and resurveyed and plat approved November 18, 1893,

Section one was given Lot No. 37—641.40 acres, and the NE<sup>1</sup>/<sub>4</sub> Sec. 11 given lot No. 41, 160 acres. By this plat Lots 1 and 2 of SE<sup>1</sup>/<sub>4</sub> SE<sup>2</sup> SE<sup>1</sup>/<sub>4</sub>, Lots 3 and 4 of SW<sup>1</sup>/<sub>4</sub> and S<sup>1</sup>/<sub>2</sub> SW<sup>1</sup>/<sub>4</sub>, 206.47 acres were found to be in Section 1, and the larger portion of [1193] Sec. 11 was thrown in to Sec. 2.

Carl A. Bruns applied to select the tracts in Sec. 1 outside of Lot 41 under the Forest Lieu Act.

The Secretary of the interior, in his decision of March 26, 1902, (31 L.D., 272) rejected Brun's application, and held that the Company's patent (No. 31) embraced the lands Bruns applied to select, and that the Company would be entitled to a patent for Lot 41 if there was no objection thereto.

By the plat approved in 1893, there was added to the NE<sup>1</sup>/<sub>4</sub> Sec. 11, Lots 1, 4 and 9, containing 47.66 acres. One C. W. Clarke applied to select said lots in Sec. 11 under the Forest Lieu Act. The Secretary, however, January 23, 1903, affirmed the rejection of Clark's application and held that said lots were patented to the Company in said Patent No. 31.

By plat, approved April 13, 1903, the portion of lots 41 in Section 11 is shown to be 52.70 acres, and is designated as lot 10.

When I applied for the patenting of lots 37 and 10, it developed that they were within a suspension on an allegation that the land contained oil. I applied to the Commissioner to revoke the suspension as to these lots.

Whereupon, he instructed Special Agent Ryan to investigate and report as to whether the same con-

tained oil or other mineral. This Special Agent on August 25, 1903, reported that the tracts were not valuable for oil or other mineral.

I now enclose a copy of the Commissioner's letter to [1194] the Register & Receiver of this date, relieving said lots 37 in Sec. 1 and 10 in Sec. 11 from suspension. I have today requested the Commissioner to issue a special patent to the Company for said lots.

Referring to your letter of the 10th inst., acknowledging Patents 84 and 122, saying that all efforts looking toward the prompt issue of patents will be greatly appreciated, I beg to say that I am doing all I can to expedite the issue of patents to the Company.

Yours truly,

(Sgd) D. A. CHAMBERS.

"P"

Department of the Interior,

148773-43

General Land Office,

J.D.Y.

Washington, D. C., September 22, 1903.

Southern Pacific R. R. Co.)

Indemnity List No. 48 )

Register and Receiver,

Visalia, California.

Sirs:

My telegram "P" of February 26, 1900, Lot 37, Sec. 1 and Lot 41, Sec. 11 T. 30 S., R. 21 E., M. D. M. with other lands, were suspended from disposition on allegations that same contain deposits of oil. Said Lots are within the indemnity limits of the S. P. R. R. Co.'s grant, and they are not embraced in mineral claims of record in this office.

By letter "P" of April 14, 1903, Special Agent E. C. Ryan, Los Angeles, California, was directed to investigate the character and condition of lands included in said lots and thereafter promptly submit a report. [1195]

I have now received Special Agent Ryan's report of August 25, 1903, inclosing a copy of an affidavit executed August 20, 1903, by William A. Maddox, in which Maddox alleges that he has resided in the vicinity of the land in question for the past eight years and is well acquainted with the land embraced in Lot 37, Sec. 1, and Lot 41 Sec. 11, T. 30 S., R. 21 E., M. D. M., having frequently been over the same; that no discovery of oil or mineral of any kind has ever been made on any portion of said land to his knowledge; that some time ago two wells were bored for oil on said lot 41, but no oil was developed and the wells were abandoned; that no development work for the production of oil or other mineral is now being prosecuted on any portion of said land, and in his opinion it is chiefly valuable for grazing purposes.

The Special Agent states that he visited the above described land August 19 and 20, 1903, and found them to be hilly and apparently valueless except for grazing purposes and further corroborates the affidavit of Maddox that there had been no discovery of oil or other mineral on said lots.

The original plats of survey shows that Lot 41 covered land in Secs. 2 and 11, but by diagram made by the Surveyor General April 13, 1903, said lot was

subdivided, and that portion thereof in Sec. 11 is now designated as Lot 10 containing 52-70 acres.

Lot 37, Sec. 1, and Lot 10, Sec. 11, T. 30 S., R. 21 E., M. D. M. are hereby relieved from suspension and you will so note on your records.

Very respectfully,

(Sgd) W. A. Richards, Commissioner. [1196]

Mr. Lewers—And, following the same right of cross-examination, and inasmuch as all the papers and matters in Mr. Hoehling's possession bearing upon this matter—the matter of the lands in controversy in this case—have been demanded, I now offer in evidence the docket entry appearing at page 253 of volume 2 of records from Chambers' office, so far as the same refers to record No. 89 only. And, in this connection, I will ask you, Mr. Hoehling, whether or not this book to which I have been referring was one of the records which was received by you from Mr. Chambers' office.

Mr. Hoehling: It was one of the record books so received.

Mr. Mills—I have no objection to it.

Mr. Lewers—Merely for the purpose of completing the history of the matter. I will therefore read into the record the portion of the docket referred to and offered, as follows:

“Southern Pacific Railroad. Visalia indemnity list No. 89.”

On the margin, at the left, marked “Closed. Approved by R. and R., Feby. 26, 1904. Apr. 30, 1904, Ad. of this list just begun—See C. W. E.'s letter of

Apr. 30, 1904. Pat. asked Sept. 23—04. Surveys not paid in Cala.—survey costs paid \$405.06.

6109.17 acres (in Tp. 30 A. R. 23 E, M.D.M.)

“This list rearranged by order of Com’r to R. & R., dated Aug. 4, 1904. Rearranged list (for exactly same land) approved by R. and R. Sept. 12, 1904. 6,109.17 acres in pat. 135 of Dec. 12, 1904. Sur. cost \$405.06. V. 19 p. 596.”

Mr. Lewers—Now, there are certain letters written by Mr. Chambers to the Commissioner which you have called for and which I understand you have copies of ready to introduce.

Mr. Mills—From Mr. Chambers?

Mr. Lewers—Yes.

Mr. Mills—Yes. That is, I have all I could find.  
[1197]

Mr. Lewers—I believe you found all that appear in this book?

Mr. Mills—I think so. I don’t know of any other relating to this case. I now renew my offer to introduce a certified copy exemplified from the records of the General Land Office and under the seal of that office, of a telegram dated February 28, 1900, addressed to the register and receiver at Visalia, California, signed Binger Hermann, Commissioner. I ask that the certified copy offered be marked plaintiff’s exhibit “QQQ”, and I now read it into the record as follows:

PLAINTIFF'S EXHIBIT Q Q Q — L L.

4-207 r

B.    DEPARTMENT OF THE INTERIOR  
GENERAL LAND OFFICE  
WASHINGTON

March 5, 1912.

I hereby certify that the annexed copy of telegram, dated February 28, 1900, is a true and literal exemplification from the records in this office.

IN TESTIMONY WHEREOF I have hereunto subscribed my name and caused the seal of this office to be affixed, at the city of Washington, on the day and year above written.

H. W. SANFORD

Recorder of the General Land Office.

(SEAL OF THE GENERAL  
LAND OFFICE).

[1198]

Copy.

“P”

1900-28151

W.E.V. DEPARTMENT OF THE INTERIOR

General Land Office,

Washington, D. C., February 28, 1900.

Address only the

Commissioner of the General Land Office.

TELEGRAM.

Register and Receiver,

Visalia, California.

Suspend from disposition until further orders townships thirteen ranges ten and eleven, fourteen ranges eleven and twelve, fifteen ranges eleven and

twelve, sixteen ranges twelve, thirteen and fourteen, seventeen ranges thirteen and fourteen, eighteen ranges thirteen, fourteen and fifteen, nineteen ranges fourteen, fifteen and sixteen, twenty ranges fourteen and fifteen, twenty-one ranges fifteen and sixteen, twenty-two ranges fifteen, sixteen, seventeen and eighteen, twenty-three ranges sixteen, seventeen and eighteen, twenty-four ranges seventeen, eighteen and nineteen, twenty-five and twenty-six range nineteen, twenty-eight and twenty-nine range twenty, thirty range twenty-three, twenty-five and twenty-six ranges twenty-six, twenty-seven and twenty-eight, twenty-seven ranges twenty-seven, twenty-eight and twenty-nine South and East.

BINGER HERMANN,

Commissioner.

O.G.

Mr. Mills—I now offer in evidence a certified copy of a report or letter, dated July 13, 1900, Bakersfield, Cali- [1199] fornia, to the Commissioner of the General Land Office, signed by J. Cummings, special agent, G. L. O., and ask that the same be marked plaintiff's exhibit "RRR", which I will read into the record, but offer it to Counsel for defendants for examination before reading.

Mr. Lewers—We object to the introduction of the document offered, not on the ground that it is a copy rather than the original, but on the ground that it is purely a hearsay statement, made on an ex parte investigation, which from the face of it appears to have been directed to lands not involved in this contro-

versy and very remote therefrom; on the further ground that no opportunity has been given to the defendants in this case to cross-examine the person making the report, that it does not concern the examination or any examination made of the land in the suit for the purpose of determining whether a patent should issue for the same, but concerns an examination made long prior thereto when no patent application was pending and when in no way could the defendants in this case, and particularly the Southern Pacific Railroad Company, be bound or concerned by anything that was done by the person making this report. We add the further general objection that the matters therein contained are irrelevant to any issue involved in this suit.

Mr. Mills—In answer to that objection, that you are not able to cross-examine the party making the report, I will state that from hearsay I understand Mr. Cummings has been dead some years.

Mr. Hoehling—I will also state that I am informed that Mr. Cummings is dead. [1200]

Mr. Lewers—But this is not an ancient document, within the meaning of the law.

Mr. Mills—With that statement I will ask that the Commissioner mark this Government's Exhibit "RRR", and I will read the same into the record, as follows:

PLAINTIFF'S EXHIBIT R R R.

M E L · DEPARTMENT OF THE INTERIOR  
GENERAL LAND OFFICE  
WASHINGTON

July 17, 1912.

I hereby certify that the annexed copy is a true and literal exemplification of the original paper on file in this office.

IN TESTIMONY WHEREOF I have hereunto  
subscribed my name and caused the seal of  
this office to be affixed, at the city of Wash-  
ington, on the day and year above written.

H. W. SANFORD,

Recorder of the General Land Office.

(SEAL OF THE GENERAL  
LAND OFFICE) [1201]

Special Service  
Division

---

P. DEPARTMENT OF THE INTERIOR  
General Land Office.

Address only the  
Commissioner of the General Land Office.

Bakersfield, Cal., July 13th, 1900.

Exhibit No. 1 mentioned in this  
letter is map 89—California filed in  
Div. L.

Hon Commissioner.

General Land Office.

Washington, D. C.

Sir:

In compliance with your instructions, see letter "P.", W. E. V., Dec. 19, 1899, directing me to investigate and report upon the mineral or non-mineral character of certain lands located in "Townships 15, 16 and 17 S. Ranges 10, 11, 12 and 13 E., M. D. M., Township 27 S. Ranges 27, 28, 29 and 30 E., M. D. M., Township # O. S., Ranges 21 and 22 E., M. D. M., Township 31 S., Range 22 E., M. D. M., and Township 11 N., Range 23 W., S. B. M., California, which are alleged to be oil lands (mineral)."

I have the honor to report as follows:—Immediately after entering upon this investigation, I was confronted with indisputable facts that warrants me in stating that the lands in question, and very much of the contiguous country, *are valuable only for their mineral worth*; there are no agricultural lands in any part of the suspended district; the mineral possibilities are something wonderful, and I make the prediction that this will soon be the largest oil field in the United States, if not in the world. I have visited all of the territory that stands suspended, and I find no people engaged in [1202] farming, cattle raising, or sheep herding, in all this vast area of land: for the simple reason that it produces nothing that will sustain man or beast; it is essentially mineral land, and from the present outlook, will soon be a great source of wealth to the State, quite likely the revenue that

will be obtained from these well known oil fields will exceed all other mineral products of the state, within a very few years. One is filled with amazement to witness the amount of development work that has been accomplished already, and the oil industry here in southern California is but a year old. These vast oil fields represent millions upon millions of dollars, and settle the fuel question of the Pacific Coast for generations to come.

I mail you a most excellent map of the country where these lands are located; the red lines are the exterior bounds of the lands that are held in suspension, and I cannot recommend too strongly, the propriety of reclassifying the same. Doubtless, here and there, parts of a Township might be set back again in the agricultural list, but if not done, the agriculturist will not suffer; there are positively no lands in all this large list that would bring five cents an acre, for farming or grazing purposes. But for mineral purposes, these same worthless lands have risen in one short year to a valuation of \$1,500 per acre in many instances, and it is a rare thing to hear any of the known oil lands offered at less than \$1,000 per acre.

I will mark the above map Exhibit No. 1, as it will necessarily plat an important part in connection with the many reports that will be forwarded to the department.

I also forwarded Exhibit No. 2; this is an Album of photo- [1203] graphic views that were taken under my personal direction and represent different por-

tions of the oil fields under consideration; they tell their own story in plainer and more eloquent terms than I can. I searched in vain for an opportunity to photograph the improvements of some of the many homestead entries that have been recently filed on these valuable mineral lands.

The fact is, every Homestead entry, or lieu selection made under the act of June 4, 1897 (30 Stat., 36), during the past year, on any of the lands now under consideration, have been fraudulently made; they were taken for their mineral worth.

There are no agricultural improvements on any one of these fraudulent entries, but we find Derricks and Oil Wells, everywhere; oil tanks in countless numbers filled to overflowing, and in many instances oil being pumped into holes dug in the ground, for the want of transportation facilities; scores of eight, ten and twelve mule teams constantly on the go to the different depots with their precious loads of oil, the same to be shipped to all parts of the country, dozens and dozens of individuals constantly arriving from various portions of the world for the purpose of engaging in the oil industry in some form or another; scores of miners, mechanics and laborers constantly arriving, and are immediately set to work at magnificent wages; train loads of mining machinery arriving at each of the Railroad depots, daily; lands that one year ago would not command \$1.00 per acre, readily selling at this time as high as \$1,500 per acre, and even higher; these are among some of the reasons that induce me to declare to the Hon Commissioner

that the lands under consideration are MINERAL, pure and simple. [1204] I will make report on 4-480 in all cases that come within the proper scope of such form. Said reports will prove conclusively that the lands under consideration are mineral.

As to the character of minerals that prevail in the tracts covered by your suspension, I will state that the following constitute the prevailing minerals to be found in paying quantities within the borders of the said lands, viz:—crude petroleum oil, asphalt, sulphur, fullers-earth, and gypsum: The first and last in fabulous quantities, asphalt in great abundance, and fullers earth in sufficient quantity to build strong hopes for its becoming a paying industry in the near future.

I have spent much time in collecting facts and figures regarding the cost of development work, already accomplished in the oil fields in this locality. It has been necessary for me to consult with, or correspond with over two hundred and fifty different Corporations, that are actively engaged in some form or another, in the development of crude petroleum oil in various portions of the suspended lands under investigation. I have received replies from about one half of the number, and promises from many who were not yet ready to report.

The earnestness and good faith of those actively engaged in developing and producing oil in the Kern River Oil District will not be questioned; it is safe to say that \$1,500,000 has been spent in development work by these fearless and honest miners. This vast

expenditure has been spent in producing crude petroleum oil, principally in Townships 27, 28 and 29 S., Ranges 27, 28 and 29 E., M. D. M. This territory is now producing large quantities of oil, and shipping to the full extent that the operators can secure transportation facilities; [1205] every barrel has to be hauled from six to seven miles, by wagon; this is a tedious and slow means of transportation; the S. P. Co. are now building a branch line into the oil field, which will be completed within 20 days, and it is claimed that the oil output in this field will soon reach 5000 barrels per day, with a prospect of 10,000 per day within a year's time. Oil is quoted at \$1.00 per barrel f. o. b. at this point; one day's income, viz: \$5,000, is more than the entire belt of suspended lands in the Kern River Oil District would command, under the most promising circumstances that it would be possible to invent, as an agricultural proposition.

I desire to call the attention of the Hon. Commissioner to the following fact: The City of Bakersfield is one of the oldest settled localities that there is in southern California. For many years, the County of Kern, in which these suspended lands are located, has been known as a cattle and sheep country; now mark this fact, notwithstanding that the principal revenue of the County was obtained from cattle and sheep husbandry, these lands that are now in dispute lay but from four to six and seven miles from said Bakersfield; had they been of any worth as an agricultural proposition, it stands to reason that every acre of the same would most naturally have been

homesteaded long ago; but, within one short year, every acre of this heretofore worthless land has become of agricultural worth, and especially to those who are engaged in the furnishing of Forest Reserve Scrip for speculative purposes. And not an acre of this land has been taken except for the oil it has been demonstrated that it contains, and that in fabulous richness. [1206]

I desire to call the attention of the Hon Commissioner to a class of mineral filings that are working almost as great an injury to this and other oil fields, as are the so called scrippers; numerous cases exist where combinations have been formed for the purpose of controlling vast areas of the public domain, ostensibly, under the United States laws that govern mineral filings on the public domain. In so far as I have been able to learn the facts of the case, without making an abstract of the lands that are thus held down by the combinations referred to above, said parties have placed mineral filings upon more than 250,000 acres of the public domain, in the counties of Kern and Fresno, alone. In order that the parties engaged in scripping the lands that are now known to be unmistakeably mineral might have an argument in their favor, they caused to be made a complete and accurate list of said filings. They are attested, under oath, and I assume that they are practically correct. This sworn statement shows that in Kern County alone, within a year 103 persons have located 8,248 placer petroleum mining claims of twenty acres each, an average of over eighty claims

of 1,600 acres to the person, or a total of 164,960 acres.

The statement from Fresno County makes a similar showing, covering the time between January 1, 1899, and March 1, 1900, 97 persons have located 5,983 placer petroleum claims of twenty acres each, an average of over sixty claims; 1,200 acres to the person, or a total of 119,660 acres.

The parties making these numerous filings, have made no sort of improvement or development; they would seem to be purely speculative in character, and many of them are patrolled, and otherwise held by force. [1207]

I have accumulated a mass of documentary evidence that goes to prove as conclusively as it is possible to do under existing circumstances, that quite all of the territory that you have suspended in connection with the oil lands of the San Joaquin Valley, California, are mineral (oil). I am waiting on Mr. E. E. Bush of Hanford, Cal. and J. B. Treadwell, of San Francisco, for valuable reports that they are preparing, as experts, for the use of the Hon. Commissioner in connection with the matter in hand; I am promised said reports in a very few days, and will immediately forward the same with other documents to the Department. The affidavits that I have secured are connected with cases that will be immediately reported on form 4-480, and the same affidavits will be used in a large number of cases. I herewith present the names of upwards of forty good and true representative men of California, who have

given me permission to use their names in any court, at any time, as witnesses to prove that the lands under suspension are mineral:—E. E. Bush, Hanford, Cal. C. H. Congdon, Bakersfield, Cal. W. E. De Groot, Los Angeles, Cal.; C. A. Canfield, Los Angeles, Cal.; Milton McWhorter, Bakersfield, Cal.; W. H. Shafer, Selma, Cal.; Timothy Spellacy, Bakersfield; J. J. Mack, Bakersfield; also of the same place, Jno. P. Kerr, W. M. Spencer, H. P. Bender, J. M. Keith, Walter James, J. M. Jameson, H. W. McCray, T. L. Reed, and Alvin Fay; also J. A. Stroude, Oakland, T. P. Spiers, San Jose, W. E. Knowles, Oakland, C. A. Fuller, Oakland, Maurice V. Samuels, San Francisco, W. T. Sesnon, Geo. L. Hoxie, Fresno, Hanford, W. S. Badger, Fresno, W. F. Chandler, Selma, J. B. Treadwell, San Francisco, W. F. Sesnon, San Francisco, H. H. Blood, San Francisco, F. L. Doheney, W. P. Book, and Jos. A. [1208] Chanselor, of Los Angeles; A. B. Butler, Fresno, I. W. Ross, San Francisco, G. V. Sessions, Sacramento, and Chas. S. Young, of San Francisco, all of California. Each and every one of these gentlemen are calculated to make first class witnesses; they understand the gravity of the question under investigation; I have talked with every one of the number, and as before stated, they are quite willing to respond whenever called upon. I have selected them because they will know what they are talking about when put upon the witness stand, or in any other manner that it is possible the Government wishes to call upon them. I want to say right

here that I might have extended this list to 100 if necessary. The list that I present represents expert miners, bankers, merchants, professional gentlemen, and hardy miners.

I have written and revised several reports to forward the Hon Commissioner in the matter now under consideration; so manifold have been the changes that have occurred of grave import, since entering upon this investigation, that one after the other have been case aside in consequence of their inferiority; this, I forward as a preliminary; the interests that are involved requires long and faithful study; I am doing the best that I know how; I will send in a special report recommending the immediate suspension of *all* filings that have been made under the Act of June 9 1897; also, all homestead entries that have been made, since March 1, 1899. I of course refer to such as has been made within the bounds of the suspended lands; there is not one of them that will stand fire; after a report has been perfected on form 4-480.

I wish it were possible for me to properly impress upon [1209] the Hon Commissioner the vast importance of the matter under consideration; it cannot be overestimated; should the lands under investigation be restored at this time, scrippers and would be homesteaders would soon cover all the territory involved in the suspension. It is idle to talk of these lands from an agricultural standpoint; a sheep could not exist on 1000 acres of it, and it would be quite impossible for a homesteader to make a living on 50,-

000 acres, provided he depended on the surface of the soil from which to make it.

I will forward the remaining papers relating to this matter at the very earliest day; I am quite sure, within five days.

Very respectfully,  
JAY CUMMINGS.  
Special Agent, G. L. O.

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(Endorsement on Back)

1901—29536.19

Encl 3

U. S. General Land Office 20

Received Jul 21 1900 B

96787

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124

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Jay Cummings.

Bakersfield, Cal.

July 14th, 1900.

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Makes preliminary report in the matter of letter "P.", W. E. V., December 19, 1899, directing that certain lands located in the Los Angeles, and Visalia Land District, California, be examined and reported upon as to the allegation that they were oil lands (mineral). [1210]

Ackd July 21, 1900

May 23, 1902 Refd to N

H. H. J.

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Asst. Chief R

N     Valk.

The exhibit last referred to and offered in evidence is marked Plaintiff's Exhibit "RRR".

Mr. Mills—The Exhibit just offered and read into the record refers to a map, numbered 89, known as Exhibit 1. The original of the map I have here, and will offer this original in evidence, with the stipulation that we may withdraw the same, if you gentlemen will stipulate it, and substitute a certified copy. On the certified copy of this map, the lines which appear as red on the original of the map appear as white.

Mr. lewers—I have no objection to that arrangement, provided that in case it is desired at any time in the future, we can have the original for use in court upon demand.

Mr. Mills—Yes.

The map last referred to and offered in evidence is marked Plaintiff's Exhibit "SSS."

Mr. Mills—I offer in evidence a certified copy, exemplified under the seal of the General Land Office, of a letter by D. A. Chambers, attorney for the Southern Pacific Railroad, addressed to the Commissioner of the General Land Office, dated October 7, 1903, which I will read into the record, as follows: [1211]

PLAINTIFF'S EXHIBIT T T T

4-207 r

B. DEPARTMENT OF THE INTERIOR  
M E L GENERAL LAND OFFICE  
WASHINGTON

June 8, 1912.

I hereby certify that the annexed copy is a true and literal exemplification of the original letter on file in this office.

IN TESTIMONY WHEREOF I have hereunto subscribed my name and caused the seal of this office to be affixed, at the city of Washington, on the day and year above written.

H. W. SANFORD

Recorder of the General Land Office.

(SEAL OF THE GENERAL  
LAND OFFICE).

D. A. Chambers

Attorney

McGill Building, 908 G Street, N.W.

Washington, D. C.

*Division P.*

Visalia Application List 87, indemnity limits;

“ “ “ 44, primary limits.

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October 7, 1903.

The Honorable  
Commissioner of the  
General Land Office.

Sir:

The Southern Pacific Railroad Company applied to select [1212] in the above list No. 87 the SE  $\frac{1}{4}$

of Section 23, the SW $\frac{1}{4}$  of Sec. 25, and the SW  $\frac{1}{4}$  of Sec. 27, T. 32 S., R. 25 E., M. D. M., 480 acres, and in the above List 44 the SW  $\frac{1}{4}$  Sec. 1, T. 30 S., R. 23 E., 160 acres. These applications were filed in the Los Angeles land office in October and November, 1900.

The Register & Receiver refused to approve said lists on the ground that the lands had been suspended from disposal by telegrams dated February 21 (or 23) and 28, 1900, respectively. In consequence of such action a large body of lands, including said 640 acres, were by said telegrams "temporarily" withdrawn because alleged to contain petroleum.

By the withdrawals mentioned, the Railroad Company is barred from having its said application lists approved by the Register and Receiver.

The Land Agent for the Railroad Company advised me that the lands are non-mineral in character and I, therefore, respectfully ask that a Special Agent be instructed to *at once* examine the said lands and report thereon to your office.

Very respectfully,

D. A. Chambers,  
Attorney Southern Pacific RR. Co.

—o0o—

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342

(Endorsement on Back)

128/56

U. S. General Land Office,

Received Oct 8 1903

169269

D. A. Chambers

Oct. 7-1903      City

As Atty for Southern Pac. Ry. Co.—asks special Agent examine character lands in Visalia App'n list 87 Indty limits, [1213] & Visalia Appn list 44 Primary Limits

Calf

Refd Div "N" Oct. 14/03      JDY

P Ans Oct 23 1903      ECF

The document last referred to and offered in evidence and read into the record is marked Plaintiff's Exhibit "TTT".

Mr. Mills—I also offer in evidence a certified copy of letter addressed to E. C. Ryan, special agent, General Land Office, dated October 23, 1903, signed by J. H. Fimple, Assistant Commissioner, exemplified under the seal of the General Land Office, which I will read into the record, as follows:

PLAINTIFF'S EXHIBIT U U U.

—o0o—

B.      DEPARTMENT OF THE INTERIOR

M E L      GENERAL LAND OFFICE      4-207-r

WASHINGTON

April 5, 1912.

I hereby certify that the annexed copy of office letter dated October 23, 1903, is a true and literal exemplification from the record of said letter in this office.

IN TESTIMONY WHEREOF I have hereunto  
subscribed my name and caused the seal of  
this office to be affixed, at the city of Washing-  
ton, on the day and year above written.

H. W. SANFORD

Recorder of the General Land Office.

(SEAL OF THE GENERAL  
LAND OFFICE).

[1214]

N.

H. O. C.

DEPARTMENT OF THE INTERIOR

E.C.F. GENERAL LAND OFFICE, HGP

WASHINGTON, D. C., October 23, 1903.

Address only the

Commissioner of the General Land Office.

Southern Pacific R. R. Co.,

*Ex parte*

Quasi Contests 1997 and 1998.

Mr. E. C. Ryan,

Special Agent, G. L. O.,

Los Angeles, California.

Sir:

The Southern Pacific Railroad Company has filed application in the Visalia land office to select the SE  $\frac{1}{4}$  Sec. 23, the SW  $\frac{1}{4}$  Sec. 25 and SW  $\frac{1}{4}$  Sec. 27, T. 32 S., R. 25 E., M. D. M., and the SW  $\frac{1}{4}$  Sec 1, T. 30 S., R. 23 E., M. D. M. The lands in the above named townships were suspended from disposition under the agricultural land laws on account of their alleged mineral (oil) character by telegrams "P" of February 21st and 28, 1900. It is alleged by the rail-

road company that the tracts above described are in fact non-mineral in character. You are therefore directed, in the regular order of business, to proceed to and examine the lands in question and thereafter submit report to this office stating whether or not in your opinion the same should be relieved from suspension. When making report please refer to Quasi Contests 1997 and 1998.

Very respectfully,

J. H. FIMPLE,

Assistant Commissioner.

WPW 17

[1215]

The document last above referred to and offered in evidence and read into the record is marked Plaintiff's Exhibit "UUU."

Mr. Mills—I also offer certified copy of letter dated November 30, 1903, addressed to the Commissioner of the General Land Office, by D. A. Chambers, exemplified under the seal of the General Land Office, and ask that it be marked Plaintiff's Exhibit "VVV", and I will read it into the record, as follows:

PLAINTIFF'S EXHIBIT V V V

"B"

4-207 r

M E.L

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DEPARTMENT OF THE INTERIOR  
GENERAL LAND OFFICE  
WASHINGTON

July 30, 1912.

I hereby certify that the annexed copy of letter dated November 30, 1903, is a true and literal exemplification of the original on file in this office.

IN TESTIMONY WHEREOF I have hereunto  
subscribed my name and caused the seal of this  
office to be affixed, at the City of Washington,  
on the day and year above written.

H. W. SANFORD,

Recorder of the General Land Office.

(SEAL OF THE GENERAL  
LAND OFFICE.)

[1216]

D. A. CHAMBERS,  
ATTORNEY,

McGILL BUILDING 908 G Street, N. W.  
Washington, D. C.

*Division P*

November 30, 1903.

The Honorable  
Commissioner of the  
General Land Office.

Sir:

The following lands are within the indemnity limits of the grant made to the Southern Pacific Railroad Co., by the Act of July 27, 1866, to-wit:

All Sec. 15, NE $\frac{1}{4}$  and S $\frac{1}{2}$  Sec. 17, NE $\frac{1}{4}$  and S $\frac{1}{2}$  Sec. 19, all of Sections 21, 23, 25, 27, 29, 33 and 35, T. 30 S., R. 23 E., M. D. M., Visalia land district, California.

These lands, if not oil lands, are subject to selection by the Company under its grant. But, on the allegation that they contained oil, the said lands, by your office telegram of the Register and Receiver, "P", February 28, 1900, were suspended from entry, etc.

Nearly four years have elapsed since said telegram of suspension was issued on mere allegation—a sufficient time, it would seem, to ascertain whether the lands are valuable for oil or not—but an examination of the tract books in your office fails to show the entry of a single acre of these lands under the Act allowing entry of lands valuable for oil.

Upon my request of October 7, 1903, your office wrote me October 23rd (Quasi Contests 1997 and 1998) “that an investigation” of other lands described, (among them the SW $\frac{1}{4}$  Sec. 1 [1217] of said T. 30 S., R. 23 E.) “will be made by an agent of this “office and upon receipt of this report appropriate action will “be taken upon the application of the Company to select same.”

I, therefore, respectfully ask that a special agent be instructed to *at once* examine said lands and report thereon to your office.

Very respectfully,

D. A. Chambers,

Attorney Southern Pacific R. R. Co.

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(Endorsement on Back)

26

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57

U. S. GENERAL LAND OFFICE,  
RECEIVED DEC. 7, 1903

204885

D. A. Chambers,  
City.

Nov. 30, 1903.

Asks that desc. lands within grant to S. P. R. R.  
Co. be examined.

Ans. Dec. 10, 1903.

E. C. F.

To Spl Agt. Ryan same date.

File.

N.

1 Enc.

The document last referred to, offered in evidence  
and read into the record, is marked Plaintiff's Ex-  
hibit "VVV."

Mr. Lewers—Unless I make an additional objec-  
tion, [1218] the offers made may be considered as ob-  
jected to on the grounds heretofore stated.

Mr. Mills—Yes. I now offer in evidence a certi-  
fied copy of a letter dated December 10, 1903, ad-  
dressed to E. C. Ryan, special agent, signed J. H.  
Fimple, Acting Commissioner, exemplified under  
the seal of the General Land Office, and ask that the  
same be marked Plaintiff's Exhibit "WWW," and  
will read it into the record, as follows:

4-207 r

B.      PLAINTIFF'S EXHIBIT W W W.

M E L

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DEPARTMENT OF THE INTERIOR  
GENERAL LAND OFFICE  
WASHINGTON

April 5, 1912.

I hereby certify that the annexed copy of office  
letter dated December 10, 1903, is a true and literal  
exemplification from the record of said letter in this  
office.

IN TESTIMONY WHEREOF I have hereunto  
subscribed my name and caused the seal of  
this office to be affixed, at the city of Wash-  
ington, on the day and year above written.

H. W. SANFORD.

Recorder of the General Land Office.

(SEAL OF THE GENERAL  
LAND OFFICE.) [1219]

N.

H.G.P.

DEPARTMENT OF THE INTERIOR

E.C.F. GENERAL LAND OFFICE,

WASHINGTON, D. C., December 10, 1903.

Address only the

Commissioner of the General Land Office.

Mr. E. C. Ryan,

Special Agent G. L. O.,

Los Angeles, California.

Sir:

By letter of this office dated October 23, 1903, in case of *ex parte* Southern Pacific Railroad Company, Quasi Contests 1997 and 1998, you were directed to proceed to and examine the SE  $\frac{1}{4}$  Sec. 23; the SW  $\frac{1}{4}$  Sec. 25; the SW  $\frac{1}{4}$  Sec. 27, T. 32 S., R. 25 E., and the SW  $\frac{1}{4}$  Sec. 1, T. 30 S., R. 23 E., said tracts having been applied for by the railroad company and to submit report to this office stating whether or not in your opinion same should be relieved from the suspension placed thereon by telegrams "P" of February 21st and 28, 1900.

The Southern Pacific Railroad Company has now

requested that the following lands be also examined in order that same may be relieved from suspension and made subject to selection by the Company, being within the indemnity limits of its grant, if such examination discloses that same are agricultural in character. It is stated that nearly four years have elapsed since the order of suspension and that no mineral entries have been made for any of said lands. The lands referred to are described as follows: All section 15; NE  $\frac{1}{4}$  and S  $\frac{1}{2}$  Sec. 17; NE  $\frac{1}{4}$  and S  $\frac{1}{2}$  Sec. 19; all of sections 21, 23, 25, 27, 29, 33 and 35, T. 30 S., R. 23 E., M. D. M. You are accordingly [1220] directed, when you make examination of the lands first described to also examine the tracts just enumerated and to promptly thereafter submit report as to whether or not in your opinion same should be relieved from suspension.

This office has no available force from which to assign you assistance at the present time. With this condition of affairs in view, you will make report based upon the examinations heretofore made, your knowledge of the lands remaining to be examined, and familiarity with the country generally, as to whether in your opinion there is any necessity for the continuance of the suspension of the lands in the Visalia, San Francisco and Los Angeles land districts suspended by this office in 1900, and not reported upon, a list of which you have.

Very respectfully,

J. H. FIMPLE,  
Acting Commissioner.

WPW 7

The document last offered in evidence and read into the record was marked Plaintiff's Exhibit "WWW."

Mr. Mills—I offer now copy of a letter addressed to the Commissioner of the General Land Office, certified, and under the seal of that office, dated January 22, 1904, signed E. C. Ryan, special agent, and ask that it be marked Plaintiff's Exhibit "XXX," and I will read it into the record as follows: [1221]

PLAINTIFF'S EXHIBIT XXX

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B.

4-207r

MEL DEPARTMENT OF THE INTERIOR

General Land Office

Washington

April 5, 1912.

I hereby certify that the annexed copy, report of Special Agent E. C. Ryan, dated January 22, 1904, is a true and literal exemplification of the original paper in this office.

IN TESTIMONY WHEREOF I have hereunto subscribed my name and caused the seal of this office to be affixed at the city of Washington, on the day and year above written.

(Seal of the General  
Land Office)

H. W. SANFORD,

Recorder of the General Land Office.

DEPARTMENT OF THE INTERIOR 88085

General Land Office.

Los Angeles, Cal., January 22, 1904.

Hon. Commissioner  
General Land Office,  
Washington, D. C.

Sir:—

By your letter ("N" E.C.F.) of October 23, 1903, in case of *ex parte* Southern Pacific Railroad Company, Quasi Contests 1997 and 1998, I was directed to proceed to and examine the SE  $\frac{1}{4}$  Section 23; the SW  $\frac{1}{4}$  Section 25; the SW  $\frac{1}{4}$  Section 27, Township 32 S., Range 25 E., M.D.M., and the SW  $\frac{1}{4}$  Section [1222] 1, Township 30 S., Range 23 E., M.D.M., said tracts having been applied for by the railroad company, and to submit report stating whether or not in my opinion same should be relieved from the suspension placed thereon by telegrams "P" of February 21st and 28th, 1900.

By your letter ("N" E.C.F.) of December 10, 1903, I was directed to also examine Section 15; NE  $\frac{1}{4}$  and S  $\frac{1}{2}$  Section 17; NE  $\frac{1}{4}$  and S  $\frac{1}{2}$  Section 19; Sections 21, 23, 25, 27, 29, 33 and 35, Township 30 S., Range 23 E., M.D.M., and to submit report as to whether or not in my opinion said lands should be relieved from suspension.

I have the honor to report that on January 10th, 11th, 12th, 13th and 14th, 1904, I made a careful examination of the lands in question and found no oil seepages, oil springs, surface or other indications of oil or minerals of any kind that would tend, in my opinion, to warrant said lands being classed as min-

eral in character, and I respectfully recommend that they be relieved from suspension.

Very respectfully,

E. C. RYAN,  
Special Agent, G. L. O.

---

(Endorsement on back)

167/57 U. S. GENERAL LAND OFFICE.  
RECEIVED Jan. 30, 1904. 19630.

E. C. Ryan,  
Special Agent, G. L. O.,  
Los Angeles, Cal.

January 22, 1904.

[1223]

Report as to the mineral (oil) character of certain lands in Tp. 30 S., R. 23 E. and Tp. 32 S., R. 25 E., M.D.M., applied for by the Southern Pacific Railroad Company. Instructions—office letters "N" E.C.F. October 23 and December 10, 1903.

Feby 11/04 R. & R. Visalia ECF

" 20 " " " " "

The document last referred to, offered in evidence, and read into the record, was marked Plaintiff's Exhibit "XXX".

Mr. Mills—I now offer in evidence a certified copy of a letter dated February 11, 1904, exemplified under the seal of the General Land Office, addressed to the register and receiver at Visalia, California, signed by J. H. Fimple, Assistant Commissioner, and ask that the same be marked Plaintiff's Exhibit "YYY", and I will read it into the record, as follows:

Mr. Lewers—To that letter we have no objection.  
Mr. Mills—The letter just referred to, and offered  
in evidence, I will read into the record as follows:

PLAINTIFF'S EXHIBIT Y Y Y

---

B.

4-207 r

M E L DEPARTMENT OF THE INTERIOR  
General Land Office,  
Washington

April 5, 1912.

I hereby certify that the annexed copy of office  
letter dated February 11, 1904, is a true and literal  
exemplification [1224] from the record of said letter  
in this office.

IN TESTIMONY WHEREOF I have hereunto  
subscribed my name and caused  
(SEAL OF THE GENERAL LAND OFFICE) the seal of this office to be af-  
fixed at the city of Washington,  
on the day and year above writ-  
ten.

H. W. Sanford,  
Recorder of the General Land Office.

DEPARTMENT OF THE INTERIOR

N.

W.O.C. H.G.P.

ECF

General Land Office,  
Washington, D. C.,

February 11, 1904.

Address only the  
Commissioner of the General  
Land Office.

Southern Pacific Railroad Company,  
*Ex parte.*

Quasi Contest No. 1997.

---

Register and Receiver,  
Visalia, California.

Sirs:

October 23, 1900, the Southern Pacific Railroad Company presented to your office for filing Secl. list No. 44, granted limits, for the SW  $\frac{1}{4}$  Sec. 1, Tp. 30 S., R. 23 E., M.D.M., which selection was rejected by your office on the grounds that the land applied for was situated in a township suspended by this office February 28, 1900.

December 7, 1900 the Railroad Company filed an appeal from your said decision.

The said SW  $\frac{1}{4}$  Sec. 1, has by even date been relieved [1225] from suspension and while your action in rejecting the list appears to have been correct in view of the then existing suspension there would appear now no objection to the allowance of said selection, which is herewith returned for appropriate action.

Quasi Contest No. 1997 is declared closed.

Very respectfully,

J. H. Fimple,  
Assistant Commissioner.

The document last referred to, offered in evidence, and read into the record, is marked Plaintiff's Exhibit "YYY."

Mr. Mills—I offer now in evidence a certified copy exemplified under the seal of the General Land Office, of a letter dated February 11, 1904, to the register and receiver at Visalia, California, signed J. H. Fimple, Assistant Commissioner, and ask that the same be marked Plaintiff's Exhibit "ZZZ", and I will read the same into the record, as follows:

Mr. Lewers—We have no objection to the introduction of this letter; but in this connection, as these letters are being offered without any witness, we desire to call attention to the fact that they are initialed—this particular one and others—E.C.F., W.O.C. and H.G.P. Couldn't we reach an agreement as to who those persons are?

Mr. Mills—Mr. E. C. F. is Mr. Finney, and we will call him as a witness. I don't know who the others are.

Mr. Hoehling—W.O.C. is W.O. Conway, a law examiner. He is now dead. H.G.P. is Mr. Potter, and he is dead. [1226]

Mr. Lewers—Then it is agreed that with the exception of E. C. Finney those persons whose initials appear there are now dead?

Mr. Mills—Yes. I will now read the exhibit into the record, as follows:

PLAINTIFF'S EXHIBIT Z Z Z

---

B.

4-207r

M. E. L. DEPARTMENT OF THE INTERIOR  
General Land Office  
Washington

June 14, 1912.

I hereby certify that the annexed copy of office letter dated February 11, 1904, is a true and literal exemplification from the record of said letter in this office.

IN TESTIMONY WHEREOF I have hereunto  
subscribed my name and caused the seal of  
this office to be affixed, at the city of Wash-  
ington, on the day and year above written.

(SEAL OF THE  
GENERAL LAND  
OFFICE)

John O'Connell

Acting Recorder of the General Land Office.

N. DEPARTMENT OF THE INTERIOR W. O. C.  
E. C. F. General Land Office, H. G. P.  
Washington, D. C., February 11, 1904.

Address only

The Commissioner of the  
General Land Office. [1227]

Register and Receiver,  
Visalia, California.

Sirs:

By telegrams "P" of February 21 and 28, 1900,  
Townships 30 S., Range 23 E., and 32 S., 25 E., M. D.  
M. were suspended from disposition under the agri-

cultural land laws upon allegations that same contained deposits of mineral (oil).

I am now in receipt of a report from a Special Agent of this office who has examined the SW $\frac{1}{4}$ , Sec. 1. Sec. 15, NE $\frac{1}{4}$  and S $\frac{1}{2}$ , Sec. 17. NE $\frac{1}{4}$  and S $\frac{1}{2}$ , Sec. 19; Sections 21, 23, 25, 27, 33, 35, Tp. 30 S., R. 23 E., SE $\frac{1}{4}$ , Sec. 23, SW $\frac{1}{4}$  Sec. 25 and the SW $\frac{1}{4}$ , Sec. 27, Tp. 32 S., R. 25 E., M. D. M. and who states that a careful examination thereof failed to disclose any oil seepages, oil springs, surface or other indications of oil or minerals of any kind that would tend to warrant the lands being classed as mineral. He recommends that same be relieved from suspension. The statements made in the Special Agent's report are not controverted by the records of this office and it would appear that during the period of nearly four years, which has elapsed since said suspension, any persons interested in the mineral development of the lands have had ample opportunity to explore and develop the same.

In view of these facts, it appearing that no oil or mineral of any kind has been discovered upon the lands in question it is believed that no good reason exists for the further suspension thereof. Accordingly, the lands hereinabove described are hereby relieved from suspension.

Make the proper notations upon your records.

Very respectfully,

J. H. Fimple,

Assistant Commissioner. [1228]

The document last referred to, offered in evidence,

and read into the record, is marked Plaintiff's Exhibit "ZZZ."

Mr. Mills—I now offer a certified copy of a letter dated February 20, 1904, exemplified under the seal of the General Office, addressed to the register and receiver at Visalia, California, signed W. A. Richards, Commissioner, and ask that the same be marked Plaintiff's Exhibit "4A," and I will read it into the record, as follows:

PLAINTIFF'S EXHIBIT Z Z Z

---

B.

4-207r

M. E. L. DEPARTMENT OF THE INTERIOR  
General Land Office  
Washington

June 14, 1912.

I hereby certify that the annexed copy of office letter dated February 11, 1904, is a true and literal exemplification from the record of said letter in this office.

IN TESTIMONY WHEREOF I have hereunto  
subscribed my name and caused  
(SEAL OF THE the seal of this office to be af-  
GENERAL LAND fixed, at the city of Washing-  
OFFICE) ton, on the day and year above  
written.

John O'Connell

Acting Recorder of the General Land Office. [1229]

N. DEPARTMENT OF THE INTERIOR

ECF

General Land Office,

H.G.P

Washington, D. C. February 20, 1904.

Address only the  
Commissioner of the General  
Land Office.

Register and Receiver,  
Visalia, California.

Sirs:

Telegram "P" of February 28, 1900, suspended lands in T. 30 S., R. 23 E., M.D.M., from disposition under the agricultural land laws, it being alleged that same contain deposits of oil. During the month of January 1904, a special agent of this office examined section 29 of said township and reports that he found no oil seepages, oil springs, surface or other indications of oil or minerals of any kind upon said section. He recommends that same be relieved from suspension. No objection thereto appearing upon the records of this office said recommendation is concurred in and Sec. 29, T. 30 S., R. 23 E., M.D.M., is hereby relieved from suspension.

Very respectfully,

W. A. Richards,  
Commissioner.

The document last referred to, offered in evidence, and read into the record, is marked Plaintiff's Exhibit "4 A."

Mr. Lewers—We have no objection to that exhibit.

Mr. Mills—I now offer in evidence a certified copy of a letter dated March 22, 1904, exemplified under the seal of the General Land Office, addressed to the Commissioner [1230] of the General Land Office,

signed by E. C. Ryan, special agent, and ask that it be marked Plaintiff's Exhibit [4 B'' and I will read it into the record as follows:

PLAINTIFF'S EXHIBIT 4-B

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4-207r

DEPARTMENT OF THE INTERIOR

General Land Office

Washington

April 5, 1912.

I hereby certify that the annexed copy of report of Special Agent E. C. Ryan, dated March 22, 1904, is a true and literal exemplification from the copy on file in this office.

IN TESTIMONY WHEREOF I have hereunto  
subscribed my name and caused  
the seal of this office to be af-  
(SEAL OF THE fixed, at the city of Washing-  
GENERAL LAND ton, on the day and year above  
OFFICE) written.

H. W. Sanford,  
Recorder of the General Land Office.

(COPY)

DEPARTMENT OF THE INTERIOR

General Land Office.

623 Butler Bldg.,  
San Francisco, Cal.

Los Angeles, Cal., March 22, 1904.

Hon. Commissioner,

General Land Office,

Washington, D. C.

[1231]

Sir:—

Referring to your letter ("N" E.C.F.) of December 10, 1903, directing me to make report based upon the examinations heretofore made, my knowledge of the lands remaining to be examined, and familiarity with the country generally, as to whether in my opinion there is any necessity for the continuance of the suspension of the lands in the Visalia, San Francisco and Los Angeles land districts suspended by your office in 1900, and not reported upon, I now have the honor to submit report upon the following described lands:—

Township      Range.

19 S      15 E., M.D.M.

27 S      27 E.,      "      Sec. 25 to 36 Incl.

28 S      27 E.,      "      Secs. 11, 12, 13, 14, 23,  
24, 25, 26, 35 and 36.

28 S      28 E.,      "

29 S      28 E.,      "      Secs. 2 to 1 incl.

29 S      20 E.,      "

29 S      21 E.,      "

29 S      22 E.,      "

30 S      21 E.,      "

30 S      22 E.,      "

30 S      23 E.,      "

31 S      22 E.,      "

31 S	23 E.,	“
31 S	24 E.,	“
31 S	25 E.,	“
32 S	20 E.,	“
32 S	22 E.,	“
32 S	23 E.,	“
32 S	24 E.,	“
32 S	25 E.,	“
11 N	23 W.,	S.B.M.
11 N	24 W.,	“
11 N	28 W.,	“
12 N	23 W.,	“
12 N	28 W.,	“

[1232]

T. 19 S., R. 15 E., is in what is known as the Coal-  
inga Oil Field, and is said by a number of mining  
men to be one of the best oil fields in the State. So  
far as I have been able to ascertain, there are about  
90 producing wells in this township, among them  
being the famous well known as the “Blue Goose,”  
which has been in active operation for several years  
and has produced for its owners, I am informed,  
more than a million of dollars. Many wells are now  
being bored for oil in this township, nearly all of  
which I believe will be large producers. In my opin-  
ion it will be well to have all the lands in this town-  
ship remain under suspension for the present.

T. 27 S., R. 27 E., Sections 25 and 36 inclusive, I  
know of no wells in these sections, and in my opinion  
there is no necessity for the continuance of the sus-  
pension of said lands.

T. 28 S., R. 27 E., Sections 11, 12, 13, 14, 23, 24, 25, 26, 35, 36. So far as I have been able to ascertain, there are 7 wells in Sec. 24, 5 in Sec. 25, and 2 in Sec. 36, in all of which, it is said, oil has been found. Said sections are in what is known as the Kern River Oil Field. In my opinion Sections 11, 12, 13, 14, 23, 26 and 35 should be relieved from suspension, but I believe it will be well to have Sections 24, 25 and 36 remain under suspension. [1233]

T. 28 S., R. 28 E., is in what is known as the Kern River Oil Field. There are a great many producing oil wells in the S $\frac{1}{2}$  of this township; so far as I have been able to ascertain 7 wells have been bored in the S $\frac{1}{2}$  of Sec. 19, 1 in the NW $\frac{1}{4}$  and 4 in the S $\frac{1}{2}$  of Sec. 20, 1 in the SW  $\frac{1}{4}$  Sec. 21, about 36 in Sec. 28, and a great many in Sections 29, 30, 31, 32, 33 and 34, in all of which it is said oil has been obtained. Many of these wells are large producers. It is said by mining men who know the field well that the northern part of this township is not now considered to be of value for its mineral. In my opinion there is no necessity for the continuance of the lands in Sections 1 to 18 inclusive, but think that Sections 19 to 36 inclusive should remain under the order of suspension.

T. 29 S., R. 28 E., Sections 2 to 11 inclusive. These sections are also in the Kern River Oil Field. There are, so far as I can learn, 5 oil wells in Sec 2, about 92 in Sec. 3, about 176 in Sec. 4, about 80 in Sec. 5, 13 in Sec. 8, 11 in the NW  $\frac{1}{4}$  Sec. 9, 1 in the SW  $\frac{1}{4}$  NW  $\frac{1}{4}$  Sec. 10, and 2 in the NW  $\frac{1}{4}$  NW  $\frac{1}{4}$  Sec. 11.

In my opinion it will be well to have these sections remain under your order of suspension.

T. 29 S., R. 20 E. So far as I am able to ascertain 5 wells were bored in Sec. 36 and 1 in the NE  $\frac{1}{4}$  of Sec. 13, in which only a small quantity of oil was obtained. This does not appear to be a productive territory, and in my opinion there is no necessity for the continuance of the suspension of the lands in this township. [1234]

T. 29 S., R. 21 E. From all I can ascertain 4 wells were bored in the N  $\frac{1}{2}$  of Sec. 19 and one in the S  $\frac{1}{2}$  of Sec. 7, in which a small quantity of oil was obtained, one well was bored in Sec. 32 and 2 wells were bored in Sec. 31, all of which I am informed, have been abandoned. In my opinion there is no necessity for the continuance of the suspension of the lands in this township.

T. 29 S., R. 22 E. So far as I have been able to ascertain no wells have been bored for oil, and in my opinion the lands in this township should be relieved from further suspension.

T. 30 S., R. 21 E., is in what is known as the Mc-Kittrick Oil Field. About 40 wells have been bored in this township, in all of which, I am informed, oil has been obtained. Said wells are in S  $\frac{1}{2}$  of Sec. 11. Sections 12 and 13, and lot 73, Sec. 14 (Patented). Several other wells have been bored for oil and abandoned. The greater portion of the lands in this township are chiefly valuable for agriculture (grazing) purposes, and it is my opinion that all the lands

therein, except the S  $\frac{1}{2}$  of Sec. 11, Sections 12 and 13, should be relieved from further suspension.

T. 30 S., R. 22 E., is in the McKittrick Oil Field. Many wells have been bored for oil in this township, some of which are fairly good producers. So far as I have been able to ascertain there is 1 oil well in Sec. 6, and 1 oil well in Sec. 7, 6 wells have been bored in Sec. 18, all of which are said to contain oil; 14 wells have been bored in Section 19 in 11 of which oil was found and the others [1235] have been abandoned; 24 wells bored in Sec. 20, 21 of which are said to contain oil, and the others have been abandoned; 1 oil well in Sec. 27; 8 wells bored in Sec. 28, all of which have been abandoned; 17 wells bored in the NE  $\frac{1}{4}$  Sec. 29, all of which are said to contain oil; 3 wells bored in the NW  $\frac{1}{4}$  Sec. 29 and abandoned; 1 well bored in the SW  $\frac{1}{4}$  Sec. 29 and abandoned; 1 well bored in the NE  $\frac{1}{4}$  Sec. 30 and abandoned; 5 wells bored in Sec. 34, all of which are said to contain oil. The productive territory appears to be very well known and outlined, and in my opinion there is no necessity for the continuance of the suspension of the lands in this township, except Sections 6, 7, 18, 19, 20, 27, E  $\frac{1}{2}$  Sec. 29 and 34.

T. 30 S., R. 23 E. No wells have been bored for oil, and in my opinion all the lands in this township should be relieved from further suspension.

T. 31 S., R. 22 & 23 E. Wells have been bored, but I know of no successful result, and in my opinion all the lands in these townships should be relieved from suspension.

T. 31 S., R. 24 E., is not considered to be in a probable oil-producing territory and my opinion all the lands therein should be relieved from suspension.

T. 31 S., R. 25 E., is not considered to be in a probable oil-producing territory. I know of no oil wells in this township, and in my opinion all the lands therein should be relieved from further suspension.

T. 32 S., R. 20 E. I know of no oil wells in this township, and in my opinion there is no necessity for the continuance of the suspension of the lands therein. [1236]

T. 32 S., R. 22 E. There are no oil wells in this township, so far as I have been able to ascertain, and it is my opinion that all the lands therein should be relieved from suspension.

T. 32 S., R. 23 E., is in what is known as the South Midway Oil Field. In this township there are, so far as I have been able to ascertain, about 38 oil wells, 2 of which are in Sec. 5, 1 in Sec. 6, 6 in Sec. 8, 2 in Sec. 9, 1 in Sec. 15, 2 in Sec. 17, 3 in Sec. 21, 4 in Sec. 22, 4 in Sec. 23, 5 in Sec. 25, 7 in Sec. 26, and 1 in Sec. 27; other wells are being bored in a few of these sections. In my opinion it will be well to have the above mentioned sections remain under suspension, and relieve from further suspension Sections 1, 2, 3, 4, 7, 10, 11, 12, 13, 14, 16, 18, 19, 20, 24 and 28 to 36 inclusive.

T. 32 S., R. 24 E. In my opinion there is no necessity for the continuance of the suspension of the lands in this township, except Sections 30, 31, and 32, which are thought to be in the oil belt. From all I

can learn 2 wells are being bored for oil in Sec. 30, 3 wells have been bored in Sec. 31 and 1 in Sec. 32 in which it is said oil has been obtained.

T. 32 S., R. 25 E. I know of no oil wells in this township and in my opinion all the lands therein should be relieved from further suspension.

T. 11 N., R. 23 W. So far as I have been able to ascertain 19 wells have been bored in this township, all of which are said to contain oil; said wells are in Sections 7, 17, 18, 19 and 20. In my opinion there is no necessity for [1237] the continuance of the suspension of the lands in this township, except Sections 7, 17, 18, 19 and 20.

T. 11 N., R. 24 W., is in what is known as the Sunset Oil Field. About 70 wells have been bored in this township in which it is said oil has been obtained; said wells are in Sections 1, 2, 3 11, 12, 13 and 16; many other wells are being bored in said sections. Wells have been bored in Sections 14, 23 and 22, all of which have been abandoned. In my opinion there is no necessity for the continuance of the suspension of the lands in this township, except Sections 1, 2, 3, 11, 12, 13, 16.

T. 11 N. R. 28 W. I know of no oil wells in this township, and in my opinion all the lands therein should be relieved from suspension.

T. 12 N., R. 23 W. I know of no producing wells in this township, and it is my opinion that all the lands embraced therein should be relieved from further suspension.

T. 12 N., R. 28 W. I know of no producing wells in this township, and it is my opinion that all the lands embraced therein should be relieved from further suspension.

Very respectfully,  
(Sg) E. C. Ryan  
Special Agent, G. L. O.

The document last referred to, offered in evidence, and read into the record, is marked Plaintiff's Exhibit "4 B."

Mr. Mills—I now offer in evidence a certified copy of a letter dated April 5, 1904, exemplified under the seal of [1238] the General Land Office, addressed to the register and receiver at Visalia, California, signed J. T. Macey, and ask that it be marked Plaintiff's Exhibit "4-C", and I will read it into the record as follows:

Mr. Lewers—To the letter of March 22, 1904, written by E. C. Ryan to the Commissioner of the General Land Office, we make the same general objection as heretofore made.

Mr. Mills—What was that?

Mr. Lewers—The same general objection as made to the letters offered from the Chambers letter book. To the last exhibit offered of date April 5, 1904, we have no objection.

Mr. Mills—I will read into the record the letter of April 5, 1904, as follows:

PLAINTIFF'S EXHIBIT 4-C.

B

4-207 r

M E L DEPARTMENT OF THE INTERIOR  
General Land Office  
Washington

April 5, 1912.

I hereby certify that the annexed copy of office letter dated April 5, 1904, is a true and literal exemplification from the record of said letter in this office.

IN TESTIMONY WHEREOF I have hereunto subscribed my name and caused the seal of this office to be affixed, at the city of Washington, on the day and year above written.

H. W. Sanford,

Recorder of the General Land Office. [1239]  
56802-1904-N. WHP

DEPARTMENT OF THE INTERIOR  
E.C.F.

General Land Office,  
Washington, D. C., April 5, 1904.

Address only the  
Commissioner of the General  
Land Office

**Register and Receiver,  
Visalia, California.**

Sirs:

By letter of December 10, 1903, a special agent of this office was directed to submit report based upon examinations heretofore made by him, his general knowledge of the lands and familiarity with the country generally, as to whether in his opinion there is any necessity for the continuance of the suspen-

sion of lands in your district suspended by this office in February 1900 on account of their alleged oil character.

I am now in receipt of the agent's report to the effect that certain of the lands so suspended are being developed for their deposits of mineral and that numerous oil wells have been sunk which have proved to be good producers of mineral. Other townships and portions of townships have not been developed at all for wells that have been sunk have proved to be barren. The lands upon which he states active mineral development is in progress will be allowed to continue suspended but as to the following tracts where no mineral has been discovered it is believed that no good reason exists for further suspension.

Accordingly, the lands hereinafter described are hereby [1240] relieved from suspension.

Sections 25 and 36 inclusive, T. 27 S. R. 27 E., M.  
D. M.

Sections 11, 12, 13, 14 23, 26 and 35, T. 28 S., R. 27  
E. M. D. M.

Sections 1 to 18, inclusive, T. 28 S., R. 28 E., M.  
D. M.

All of T. 29 S., R. 20 E. M.D.M.

All of T. 29 S., R. 21 E. M.D.M.

All of T. 29 S., R. 22 E. M.D.M.

All of T. 30 S., R. 21 E., M.D.M. except S  $\frac{1}{2}$  Sec. 11,  
Secs. 12, 13.

All of T. 30 S., R. 22 E., M.D.M. except sections 6,  
7, 18, 19, 20, 27, E  $\frac{1}{2}$  29, and 34.

All of T. 30 S., R. 23 E. M.D.M.

All of T. 31 S., R. 22 E. M.D.M.

All of T. 31 S., R. 23 E., M.D.M.

All of T. 31 S., R. 24 E. M.D.M.

All of T. 31 S., R. 25 E. M.D.M.

Sections 1, 2, 3, 4, 7, 10, 11, 12, 13, 14, 16, 18, 19, 20,  
24, 28, 29, 30, 31, 32, 33, 34, 35 and 36, T. 32 S., R.  
23 E., M.D.M.

All of T. 32 S., R. 24 E. M.D.M., except sections  
30, 31 and 32.

All of T. 32 S., R. 25 E., M.D.M.

Make the proper notations upon the records of  
your office.

Very respectfully,

J. T. Macey,

Acting Commissioner.

WPW 2.

The document last referred to, offered in evidence and read into the record, is marked Plaintiff's Exhibit "4-C".

Mr. Mills—I now offer in evidence a certified copy, [1241] exemplified under the seal of the General Land Office, of an affidavit signed by Charles W. Eberlein, dated June 20, 1904. In that connection I desire to state that there is another affidavit, which we are searching for, signed by Mr. Eberlein, in respect to the same land; and when we find it, we will have it certified and introduce it.

I will now read into the record the affidavit last referred to, and ask that the same be marked Plaintiff's Exhibit "4 D", as follows:

Mr. Lewers—Isn't there any correspondence that goes with this that you have?

Mr. Mills—I haven't any. The papers in the General Land Office as of the date that this was written were done up in bunches and boxes.

Mr. Hoehling—And some of them might have been destroyed.

Mr. Mills—I am informed that when Mr. Ballinger came in he revised the filing system, and that some of them filed since 1907 I can get in a minute. Some of these, prior to that date, we cannot find at all. After an accumulation of a vast amount of correspondence, when the cases were apparently closed, they sometimes burned and destroyed the papers.

Mr. Lewers—I object to the introduction of this exhibit, the certified copy of this affidavit, on the ground that it is not the original.

Mr. Mills—Then I will state that I will introduce the original, if we can withdraw it, and substitute the certified copy. [1242]

Mr. Lewers—And on the further ground that its production is not in any way accounted for. So far as it at present appears, it is purely a fugitive document.

Mr. Mills—I will now read into the record the affidavit last referred to as follows:

B            PLAINTIFF'S EXHIBIT 4-D

M E L

---

4-207r

## DEPARTMENT OF THE INTERIOR

General Land Office

Washington

June 26, 1912.

I hereby certify that the annexed copy of affidavit of Charles W. Eberlein, is a true and literal exemplification of the original paper on file in this office.

IN TESTIMONY WHEREOF I have hereunto subscribed my name and caused the seal of this office to be affixed, at the city of Washington, on the day and year above written.

H. W. SANFORD,

Recorder of the General Land Office.

(SEAL OF THE GENERAL  
LAND OFFICE)

STATE OF CALIFORNIA  
CITY AND COUNTY OF SAN FRANCISCO. } ss.

Charles W. Eberlein, being duly sworn, deposes and says that he is the Acting Land Agent of the Southern Pacific [1243] Railroad Company, that the lands selected by the Southern Pacific Railroad Company for patent in its Visalia Indemnity Limits List No. 89, have been carefully examined by the agents and employees of said Company as to their mineral or agricultural character, and that, to the best of his knowledge and belief, none of the lands returned in said List No. 89 are mineral lands.

Charles W. Eberlain.

Subscribed and sworn to before me this 20th day  
of June, 1904.

E. B. Ryan,  
Notary Public in and for the City and County of  
San Francisco, State of California.

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(Endorsement on back.)

U. S. GENERAL LAND OFFICE  
RECEIVED JUL. 20, 1904  
129481.

The document last referred to, offered in evidence  
and read into the record, is marked Plaintiff's Ex-  
hibit "4-D."

Mr. Mills—I now offer in evidence a certified copy  
exemplified under the seal of the General Land Office,  
of a letter dated July 14, 1904, addressed to the Com-  
missioner, and signed by George W. Stewart, reg-  
ister, and ask that the same be marked Plaintiff's  
Exhibit "4-E," and I will read it into the record as  
follows: [1244]

PLAINTIFF'S EXHIBIT 4-E.

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B

4-207r.

M E L DEPARTMENT OF THE INTERIOR  
General Land Office  
Washington

June 26, 1912.

I hereby certify that the annexed copy of letter  
dated July 14, 1904, is a true and literal exemplifica-  
tion of the original on file in this office.

IN TESTIMONY WHEREOF I have hereunto subscribed my name and caused the seal of this office to be affixed, at the city of Washington, on the day and year above written.

H. W. Sanford,  
Recorder of the General Land Office.

(SEAL OF THE GENERAL  
LAND OFFICE)

DEPARTMENT OF THE INTERIOR,  
UNITED STATES LAND OFFICE,

Visalia, Cal., July 14, 1904.

Hon. Commissioner General Land Office,  
Washington, D. C.

Sir:

Your letter "N" of February 20, 1904, returned for acceptance selection list No. 89 of the Southern Pacific Company. Said list was accepted February 26, 1904. As the land embraced therein is in the vicinity of mining claims [1245] we required said Company to have publication of same made. We have received proof of publication and payment of costs thereof and non-mineral affidavit. Said papers and Register's certificate of posting notice in office are transmitted herewith.

No contests, protests or objections have been filed in this office.

Very respectfully,  
Geo. W. Stewart,  
Register.

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(Endorsed on back.)

34/59 U. S. GENERAL LAND OFFICE  
RECEIVED JUL. 20, 1904. 129481.

UNITED STATES LAND OFFICE, Visalia,  
Cal., July 14, 1904. Register transmits S. R. R. R.  
Co.'s Selection list No. 89 in.....of.....July  
21/04 refd to Div F ECT HGP involving the  
.....of Sec.....

No ans. rec'd. CAS files FCN

Tp.....R.....Reference is had  
to letter "N" of (E.C.A.) of Feb'y 20 1902. 56/39.

Aug. 4, 1904 to R & R returning list 89 with in-  
structions D. A. Chambers advised. Wood.

The letter last referred to, offered in evidence, and  
read into the record, is marked Plaintiff's Exhibit  
"4E."

Mr. Lewers—In determining whether we have any  
objection to this last offer, we desire to inquire  
whether you have the original, or a certified copy, of  
the enclosures referred to herein and if you intend  
to offer those in evidence. [1246]

Mr. Mills—I haven't them in my possession, and  
I don't know whether they are existing now in the  
Land Office; but I will make some inquiry about them.  
Perhaps I do have them.

Mr. Hoehling—Proofs of publication, payment of  
costs, and affidavits. Will you put them in?

Mr. Mills—I may, if you want me to. It is not part  
of my case.

Mr. Lewers—We should like to have them. If we  
are sure those will be introduced, we have no objec-

tion; but if they are not, we object to the introduction of this on the ground that it is incomplete, as it refers to certain proofs of publication accompanying the same which are not attached to the exhibit.

Mr. Mills—Let it be marked subject to the objection.

Mr. Mills—I now offer in evidence a certified copy, exemplified under the seal of the General Land Office, of list No. 110, Southern Pacific Railroad lands, indemnity limits, and ask that it be marked as Plaintiff's Exhibit "4 F".

The document last referred to and offered in evidence is marked Plaintiff's Exhibit "4 F."

Mr. Mills—I now offer in evidence a certified copy, exemplified under the seal of the General Land Office, of Patent 135, and ask that the same be marked Plaintiff's Exhibit "4 G."

The document last referred to and offered in evidence was marked Plaintiff's Exhibit "4 C."

Whereupon an adjournment was taken until two o'clock p.m., August 2, 1912, at the same place. [1247]

Mr. Lewers—Mr. Examiner, I am just in receipt of the letter written by Charles W. Eberlein to D. A. Chambers, under date of December 10, 1903, being the letter recently demanded by Mr. Mills; and I now offer it in evidence. In offering this, we do not desire to be taken as waiving any right to claim privilege, or privileged communication, in connection with any other correspondence either in this or in any of the other cases affecting the alleged oil lands in Cali-

fornia, and this is offered at this time because of the fact that it is part of the correspondence which was introduced in evidence in Washington in August of last year.

Mr. Mills—No objection.

Mr. Lewers—I ask that the letter referred to be read into the record as follows: [1248]

“(6-15-03-2M)                      Ansd Dec 16                      SC. 19 B

Telephone Main 1722 LAND DEPARTMENT

Note—Be careful in

OF THE

writing about land,

to describe it par-

SOUTHERN PACIFIC

ticularly by section

RAILROAD COMPANY.

or parts of section,

township and range.

Room 67, Wells Fargo & Co.

Express Building, Cor. Sec-

ond and Mission Streets.

Dictated.

San Francisco, California, December 10, 1903.

Subject: Visalia Main Line Indemnity List No. 89.

Mr. D. A. Chambers,

McGill Building, 908 G. St., N. W.,

Washington, D. C.

Dear Sir:—

Referring to our correspondence in regard to this matter, I beg to say that under date of December 9th, Mr. Wm. F. Herrin advises me that *he* has taken an appeal from the Register and Receiver's rejection of Main Line Indemnity List No. 89, recently filed, and that a copy of his appeal has been forwarded to you.

In this letter, evidently written by Mr. Singer, occasion is taken to criticize somewhat the proceeding of this department. The following appears in his letter:

'The best course, it seems to me, was to accompany the selection list with affidavits setting forth that the lands are vacant and unappropriated non-mineral lands, and asking that the order of suspension be released. Such affidavits and petition would, I believe, have procured a hearing to be ordered, and if sustained should entitle our list to *nunc protunc* filing but if not, still our list [1249] would be ordered filed simultaneously with the release of suspension; and pendency of our selection would cut off intermediate settlement.'

It is possible that Mr. Herrin has written you in the same tenor, when sending you copy of the appeal.

This is a matter of practice, as to which I am willing to act under advice.

It seems to me, however, that the first and most necessary step to take was to file our list, as advised by you.

We, of course, knew of the suspension, and if there is any virtue in the filing of an affidavit I don't see why it cannot be done now as well as at the time of the filing of the list.

Will you give me the benefit of your advice, as to what is best to be done.

I am particularly anxious in regard to this list as the lands adjoin the oil territory, and Mr. Kruttschnitt is very solicitous in regard to it.

I have had in mind the suggestion you made some-time ago in regard to inducing Mr. E. C. Ryan, Special Agent at Los Angeles, to make his report.

I am not acquainted with Mr. Ryan, and it is a matter for serious consideration as how to approach him.

It would not do, certainly, to ask for a report recommending the release of the lands selected by us, from suspension. In my opinion it would not be politic to ask for a release in any particular district.

Mr. Ryan would, in all probability, jump at the [1250] conclusion that the railroad had some special information in regard to that district, and the result would probably be that our request would have the opposite effect from that desired.

All that I could do would be in a general way to ask him to submit a report of the lands covered by the order of suspension, which, as you know, embraces a very large area.

How would it do to ask the Department to suggest to Mr. Ryan that he make a report of so much of the lands within the suspension limits as he has examined up to this time.

It might be that such a report would cover the very district in which we are operating, and we would then be relieved from the danger of having called particular attention to any locality.

There is a point of land office practice as to which I would like your opinion.

Since succeeding Mr. Madden, two lists have been filed by this department and rejected. In both cases,

following out what appears to have been the rule in this department heretofore, I have written to the Law Department, stating the facts of filing, rejection, etc., and asked that a proper appeal be drawn and sent to me for execution and filing.

In both cases the Law Department has not only drawn but has perfected the appeal and filed it without reference to this department.

I do not know that there is any point involved, and the only reason that I am asking for your opinion is [1251] that heretofore I find, by reference to our office files, the appeal has been drawn in the Law Department and signed by the Land Agent, and by him forwarded to the Register and Receiver for filing. It is merely a question of what is the proper procedure.

I presume the General Land Office has its own ideas as to what officer should make the appeal, and I do not wish to vary the practice in such a manner as to confuse the Department, and hereafter lead to complications which might be very annoying.

Yours very truly,

Charles W. Eberlein,  
Acting Land Agent."

The letter last referred to and read into the record, is introduced in evidence and marked "Defendants' Exhibit No. 199-LL." [1252]

EDWARD C. FINNEY,

Witness called on behalf of the Plaintiff.

August 2, 1912.

**Direct Examination:**

I am assistant attorney, in the office of the assistant attorney general, and reside at Washington, D. C.; I was appointed clerk in the General Land Office September 1st, 1894, and served eleven years as a clerk and examiner in the Mineral Division of said office, known as Division N; correspondence from that department bears the letter "N," which no other department uses; for the next three years I served as a member of the board of [1253] law review in the same office, reviewing letters and decisions prepared by the mineral division for the signature of the Commissioner; in 1909 I became assistant to the secretary of the interior, and served for one year; then chief law officer of the reclamation service, until May 1, 1911, when I resigned and entered the practice of law at Washington; November 1, 1911, I re-entered the service as an assistant attorney general, in the Interior Department; I became very familiar with the practice of the land department; at the date of Plaintiff's Exhibit QQQ, telegram from the Commissioner to the register and receiver at Visalia, suspending certain land, on February 28, 1900, I was in the land office, mineral division; I remember the circumstances under which that suspension was ordered; in the latter part of 1899 and in 1900, prior to the date of this telegram of February 28th, 1900, there were received in the general land office various letters and petitions from people in California who alleged that they were interested in the exploration for and exploitation of petroleum and other mineral oils; these

letters which I read, with which I was at that time familiar, represented that unless the lands were suspended from agricultural disposition and the various forms of forest lieu selection scrip, railroad selections, and other non-mineral filings, patents would be obtained thereto under the agricultural laws without affording sufficient time to make adequate explorations for minerals, and the Commissioner was asked to suspend the lands from disposition for a reasonable time, so that explorations might be made on the areas alleged to contain oil.

The effect given Exhibit QQQ by myself and other employees of the general land office, was it suspended from all disposition the lands described, and that no filings or selections of any kind could be properly received during its pendency, that no mineral entry for petroleum could be made, [1254] and non-mineral; the letter from D. A. Chambers, attorney for the Southern Pacific Railroad company, Plaintiff's Exhibit VVV, complaining that the company was deprived from selecting certain lands because of this suspension, was received in the Mineral Division, and assigned to me for action, by reference to the Division "P"; reference is therein made to a previous letter of October 7, 1903; the last letter mentioned, Exhibit TTT, dated October 7, 1903, I received in this manner in October, 1903,—or one similar, presumably the original of this copy; I prepared a reply which was signed by the Commissioner, and sent to Mr. Chambers.

On receipt of these letters in Division N, particu-

larly the last one, of November 30, 1903, I went to the Chief of Division P, in charge of the field force, and asked for the name and address of a special agent to make a field investigation of the lands included in the orders of suspension in California, with a view to obtaining information upon which the General Land Office might determine the advisability of either continuing or revoking the suspension orders; the only intention at that time was to determine whether the suspension should be lifted or not; it was my purpose, if the special agent's report so warranted, to prepare for the approval of the Commissioner a letter restoring the lands to general and appropriate disposition, and entry, selection and filing under the law applicable to them; if the report showed good reasons for continuing the suspension order, it was my intention to prepare letters denying the request of the attorney for the railroad company and advising the register and receiver that the suspension would be continued; so far as I know no action was taken to adjudicate the character of the lands involved in this suit during the years 1903 and 1904; I was thoroughly acquainted with the practice in this special tribunal known as the Interior Department, and know that special agents' [1255] reports were not made the bases for adjudicating the character of lands; they made field investigations and submitted information to the Commissioner, which the latter might regard or disregard, or use for ordering further investigation, or hearings, in contested cases or

in cases of applications to enter the lands examined under any land law.

During the entire period of my service, from 1894 to 1909, the Land Office adjudicated *ex parte* cases, selections or entries, upon affidavits and other proofs submitted by the entrymen or selectors in accordance with the law or regulations governing that particular class of cases. In cases contested by other individuals or corporations, or by the Government, it was the practice to order hearings or trials, at which the testimony of witnesses might be taken, reduced to writing, and thereafter passed upon by the Land Department.

Q. Now, in a case in which there was no evidence adduced either for or against an application for selection of lands, but in which the investigation was limited by the Government to its own policy touching the disposition of the land, could there possibly be any adjudication of the character which would be binding or conclusive on the Government, according to the practice as you understood it?

A. In such a case, the General Land Office, in acting upon the selection or entry, would not base that action upon the agent's report, but would base its action upon the entry or selection and the accompanying proofs, that is, the proofs submitted by the entryman or selector in support of his filing.

Plaintiff's Exhibit UUU, a copy of a letter from J. H. Fimple, the Assistant Commissioner to E. C. Ryan, special agent, appears to be a certified copy of a letter which I prepared in October, 1903, and signed

by him on the 23rd ; it describes the southeast quarter of section 23, the southwest quarter of section [1256] 25, southwest quarter of section 27, township 32 S. R. 25 E., M.D.M., and the southwest quarter of section 1, T. 30 S., R. 23 E., which are also described in Plaintiff's Exhibit TTT, dated October 7, 1903. That letter was written to Mr. Ryan in pursuance of some action taken upon the letter of Mr. Chambers, known as Government Exhibit "TTT". Reading the portion which you request which states what action would be taken by him in reference to those lands, it is as follows:

"It is alleged by the railroad company that the tracts above described are in fact non-mineral in character. You are therefore directed in the regular order of business to proceed to and examine the lands in question and thereafter submit report to this office stating whether or not in your opinion the same should be released from suspension. When making report please refer to quasi-contest 1997 and 1998."

Plaintiff's Exhibit WWW, a certified copy of a letter written to Mr. Ryan December 10, 1903, includes the lands which are described in TTT, and constituted the action to be taken by Mr. Ryan in respect to the examination of lands in this suit, in 30-23, as well as other lands. It related to the lands just described, as well as to other lands in California. Other lands covered by the orders of suspension of February 21 and 28, 1900. My recollection is that the orders of February 21, and February 28, 1900,

covered separate and different tracts of land. The last paragraph of Plaintiff's Exhibit WWW reads:

"This office has no available force from which to assign you assistants at the present time. With this condition of affairs in view, you will make report based upon examinations heretofore made. Your knowledge of the lands remaining to be examined and familiarity with the country generally, as to whether, in your opinion, there is any necessity for the continuance of the suspension of the lands in the Visalia, San Francisco and Los Angeles districts suspended by this office in 1900 and not reported upon, a list of which you have."

A large area had been suspended, and Mr. Ryan had been furnished with a list by the office, in 1900; I realized personally, and it was the general understanding and knowledge of the officials of the Land Office, that it would be physically impossible for one special agent to make a thorough and minute examination of [1257] each of the subdivisions of the lands withdrawn, within the time and with the money and the equipment he was allowed. My purpose, and that adopted by the Commissioner when he approved the letters directing the examination to be made, was to obtain general information, derived from a general examination of the lands and from whatever knowledge Mr. Ryan might be able to acquire or had already acquired. The Commissioner could not, and did not attempt, under the practice then prevailing, to adjudicate the character of lands upon a special

agent's investigation and report. Our purpose, and his purpose, was to obtain general information to guide him in restoring the lands to general disposition, so that desert land claimants, forest lieu selectors, mineral claimants, or any other qualified citizens or corporations might apply to select or enter the land under the applicable laws, upon submitting the proof of the character required by the law and regulations. There was no attempt to adjudicate the character of any particular tract of land in any of these letters which I prepared or with which I had to deal at this time. There was no attempt to send a person with special scientific qualifications to determine the character of the lands; after a report would be received, I personally examined some selections and entries made within former withdrawn areas, after revocation of these suspension, and I know it was the practice and requirement of the Land Office that such entries and selections should be accompanied and supported by usual proofs as to the character of land and compliance with the law; the revocation of a suspension was regarded and treated as a restoration to the former status.

Under the practice and rulings of the General Land Office then and now in force, a list of selections tendered when the lands are withdrawn would be regarded as vesting no right in the applicant for listing, and an appeal from the rejection would be treated simply as entitling the appellant to a decision as to [1258] the correctness of the action of the register and receiver; the numbers given to lists of selections are

simply for the convenience of the Land Office and the parties. Under the practice of the General Land Office, the filing of a new and separate selection list for the same lands, accompanied by new proofs, would be regarded as a waiver of the original filing or selection, and a substitution of the new selection therefor could be effective only from the filing of the latter selection;

Q. By Mr. Mills—Now, I am advised from the evidence already introduced in this cause that the list which this railroad company, the Southern Pacific Railroad Company, did file on February 26, 1904, was objected to by the Department because of some error in assigning base lands by wrong subdivisions, or something of that sort, and subsequently the new list was a corrected list in some way and assigned these lands by subdivisions. What effect, generally, would that have upon the list for which the new list was filed?—I think Mr. Stone testified that there was a mistake in assigning base lands for the list of February 26th.

Mr. Hoehling—And they were changed and a new list filed substituting these bases.

Q. By Mr. Mills—What effect would the amendment offered by Mr. Hoehling have?

A. Under the practice of the General Land Office, then and now, as I know it and understand it, the selection would be only effective from the time that a proper base was assigned for the tract selected as indemnity.

Q. Now, the selection list on which the patent was based in this case was dated September 6, 1904, and accepted by the register and receiver on September 12, 1904. The list was approved in the General Land Office and patent issued on December 12, 1904, which would be exactly three months later. Now on [1259] what list would that patent be based, assuming two lists previous to that had been made and filed by the railroad company upon the same lands?

A. The practice of the General Land Office was to make out, from the original selection list tendered, what is known as a clear list, which list would be submitted to the Department for approval and which would bear a different number from the selection list filed. That clear list should, under the practice, have been based, however, upon the selection list tendered by the company at a time when the selected lands were open and subject to selection and upon a list which was accompanied by a proper designation of bases for the indemnity sought.

Plaintiff's Exhibit 4 F is what is designated in the Land Department as an approved clear list of railroad selections; it is numbered 110 Southern Pacific Railroad lands, indemnity limits, Visalia Land District, California, the "110" is an office number given for the purpose of identifying the lists which have been recommended for approval of the Secretary of the Interior; even had the General Land Office during the year 1904 and subsequent to the order of suspension before it had been revoked, attempted to

adjudicate the character of lands suspended, it would not have relieved the railroad company from furnishing requisite non-mineral proofs in support of their applications or selections; Under the rulings and practice of the Department of the Interior and of the General Land Office, even the adjudication of a tract of land as mineral or non-mineral would not relieve a subsequent applicant, selector or entryman from submitting with his application, entry or selection, appropriate proofs as to the character of the land and other proofs required by the law and regulations to accompany that class of filing, selection or entry; the burden of satisfying the Commissioner of the character of lands, rests upon the applicant, entryman or selector. [1260]

I do not recall positively the time limit after selection for patents to issue, in 1904; but at no time between 1894 and 1909, were such selections taken up immediately and patented; at no time were they acted upon in less than thirty days after their receipt in the General Land Office, and at some time during that period they were required to be held for ninety days prior to action; one of the reasons for that was that actual settlers might file their homestead entry within three months; and it was to accord any other claimants, such as mineral locators, or other persons alleging an interest in or to the land, opportunity to object, not only to railroad selections, but to any filings or entries,—give them opportunity to get their protest or objection in to the General Land Office before patent issued.

Q. At the time that the Commissioner ordered these so-called examinations for the purpose of determining whether the suspensions should be continued or revoked, you may state whether or not, from your recollection, there was a feeling in the Department that the lands had been under suspension some time and there was some anxiety displayed by those in authority to promptly relieve a great many lands unless there had been some real showing in the way of exploration.

A. I know that there was such a feeling in the Department. I personally had noted several instances where railroad selections or the applications of homestead entrymen to enter these lands had been made and rejected by the register and receiver, and felt that if the agent's report disclosed no good reason to the contrary the lands should be restored to general disposition.

Q. As I understand you, the lands were suspended from all forms of disposition?

A. From all forms of disposition. No entry or selection could be allowed during the pendency of the order. [1261]

CROSS-EXAMINATION  
OF  
EDWARD C. FINNEY.

The embargo which was placed on these lands in respect to all kinds of entry or selection, and which had been in force during all the years after 1900, gave rise to applications, not only on behalf of the railroad

company to select, but by those who wished to make private entry upon the lands, and it was for that reason that the Department finally concluded that the time had arrived to ask for a report from the special agent; applications had been received for lands included within the orders of withdrawal by homestead applicants as well as by the railroad company.

Speaking of the effect given by the General Land Office to the report of any special agent, in the absence of a contest, and ordinarily on a contest, the Department, in making its decision on an application for land, decided the same upon the proofs submitted by the applicants, giving no weight to the report of the special agent. If, however, the report of the special agent had been to the effect that the lands applied for were in fact mineral, it might result in a rule or order issued by the Land Office for a hearing, at which the agricultural selector or entryman might have an opportunity to offer testimony concerning the character of the land, and the Government to offer testimony in support of the special agent's report, or to determine the true character of the land; in the absence of any report by an agent, or in the presence of a report that the lands were in fact non-mineral, the *exparte* proofs offered by the entryman or selector would be uncontroverted, and the practice of the Land Office at that time was to accept those proofs at their face value; if, however, the agent's report was contrary or opposed to the *exparte* evidence submitted, it might, and probably would, have resulted in the ordering of further investigation

or of a [1262] hearing to determine the character of the land; by "other proofs" I simply meant that after the lands had been restored to disposition, as in this case, the withdrawal orders had been revoked, the lands became just like other lands, similarly situated, subject to application or entry under appropriate laws, and the applicant or selector or entryman would have to submit the ordinary proofs required by the laws and regulations and applicable to that particular kind of filing; in all, or practically all, non-mineral filings one of the proofs required to be submitted is a non-mineral affidavit; other proofs might be evidence of publication of notice of the selection for filing.

The practice at that time required those publications in respect of applications to select lands which lie within six miles of a mineral claim, or in it; according to my recollection that publication was required to run for thirty days; I think it was required to be published in a newspaper within the land district, and I am not sure but that it was within the county; I cannot recall whether at that time it was required to be published in two papers or simply in the paper nearest the land; I don't recall whether in this particular case there was a publication, and whether it was published in two newspapers; I don't know that I passed on the selection list; the object of the publication was presumably to give notice to any persons having mining claims or locations in conflict with the selection or entry, and was designed to give the public information that application or selec-

tion was pending for those lands, and afford an opportunity to file a protest or contest; I do not recall that the publication was made as required, of this particular list 89; I don't recall that I actually acted on this list after it was finally received in the General Land Office and at the time it was submitted for approval; the clear list 110 does not bear my initials or signature; according to the photographic copy here on file, the [1263] action taken in the mineral division was attested by C. A. Hollingsworth, examiner, and H. G. Potter, chief of division, from which I should assume that the examination was made by Miss Hollingsworth.

It is my understanding that substitution of new base is permitted, but that in practice and legal effect the selection becomes a valid selection only from the time that a proper base is submitted; for instance, an intervening adverse claim to the land might defeat any such substitution, under our practice as I understand it.

Q. Is it not a fact that during the earlier administration of these railroad land grants the Department patented thousands of acres of indemnity lands without the furnishing of any bases at the time of the patent, but that the bases were not furnished until some time thereafter, and then furnished in lump, until that practice was changed?

A. I can't answer that question. I don't know whether or not such a practice obtained. According to my best recollection, it did not obtain in 1900.

Mr. Mills—When was that, Mr. Hoehling?

Mr. Hoehling—That was prior to 1903.

Mr. Lewers—Our position is that the assignment of a base is in no way a condition precedent affecting the validity of the patent.

Q. By Mr. Hoehling—Assume that this list 89, in one form or another, was pending for approval from 1903 until December, 1904, when patent issued thereon; is it your idea that the filing by the company, in September, 1904, of a mere substitute and corrected list as to bases merely, the lands selected not having been changed in any particular whatever, was in legal effect an entirely new indemnity selection list as of that later date in such sense as to permit intermediate private entries on the land to cut out the railroad indemnity selection? [1264]

A. It is of course a mere assumption that the list was regularly pending prior to the time of the filing of the new bases. Assuming a case where such a selection list had been regularly pending during that time, but on an insufficient base or upon no base at all, it is my understanding that it would become a valid selection only when a proper and valid base was offered to the Land Department. It is upon that understanding that I have given my opinion as to the legal effect of that situation; the order of suspension of 1900 covered a number of townships in California, and other lands than the lands in suit; I personally prepared for the commissioner's sig-

nature letters directing an investigation of lands other than those in township 30-23;

Q. And were some of those instances prior to the direction that was given in respect of these particular lands?

A. At the present time I cannot undertake to fix the dates when the letters were written or approved—in other words, I am not sure whether this was the first action or not—but I do recall that the action taken was the result of the letters filed there by Mr. Chambers, and also in part due to the fact that we knew of the offer and rejection of railroad selections and of homestead applications for some withdrawn lands.

#### RE-DIRECT EXAMINATION OF

EDWARD C. FINNEY.

Both under the practice in 1903 and 1904, and under the law as I understand it, it was necessary that a loss must have occurred within the granted or primary limits before any indemnity selection might be made; I do not know the practice followed by the register and receiver at Visalia, or in California, with respect to whether the railroad could select its own newspaper for publication and deposit its fees. [1265]

#### RECROSS EXAMINATION OF

EDWARD C. FINNEY.

The practice is somewhat different under various

laws or kinds of filing, and I am not entirely sure, but I am inclined to think that under the practice with respect to railroad selections the register and receiver were supposed to designate the newspaper for publication. [1266]

EDWIN C. RYAN

Forty-fourth Witness for the Plaintiff. Washington,  
D. C. August 5, 1912.

My name is Edwin C. Ryan and I am 47 years old. In 1903 and 904, I was a special agent of the General Land Office and was located at Los Angeles, Cal.

While I was located in California, I received instructions from the Commissioner of the General Land Office to examine some lands that had been suspended from entry under the telegrams of February 21 and 28, 1900. Pursuant to these instructions I examined the lands in suit in Township 30-23, along with other lands.

These instructions were partly in writing and partly oral, the oral instructions being received by me about the last of September, 1903, from Mr. Pollock, who was chief of the field service at that time. He told me that these lands had been suspended for about four years and asked me to make an investigation and an early report on them. I told him that it was impossible for me to go over all the lands without a camp outfit. He said that he did not think he could furnish me with the outfit, but that it was not necessary for me to go over all the lands; that I could drive over part of them just as the crow flies, and

to interview ranchmen, stockmen, as to the locality of oil wells producing oil in paying quantities. He told me to recommend that lands on which I did not find oil wells in paying quantities should be relieved from the suspension.

I visited the Elk Hills in January, 1904. I first went to a point where I could look over the lands and look around for oil wells but did not see any. I did not go on every section of the land on that examination. I may have gotten over four or five of them. I don't know as I did that. But I drove up to this high point. It was very rough land and it was [1267] physically impossible for me to get over all of it, but I went to that place where I could see if there were any oil wells.

I was instructed to examine all of the lands that remained under suspension, which included about twenty-five townships. I made a separate and special report upon the Elk Hills at that time. I hadn't gotten the data on which to base the general report which I made subsequently. My report on the Elk Hills included also a report on some lands in T. 32-25, which were examined on the same trip. I think I spent four or five days in making this examination of the lands in the Elk Hills, and in the other township mentioned. I first went into T. 30-23. The two places are about twenty-five miles apart.

I am not a geologist or mineralogist, and I examined these under the criterion given by Mr. Pollock. I did not make any geological determination of any kind as to their mineral character.

In my report of January 22, 1904, I said in reference to these lands in T. 30-23 and the other lands in 32-25: "I have the honor to report that on January 10, 11, 12, 13 and 14, 1904, I made a careful examination of the lands in question and found no oil seepage, oil springs, surface or other indications of oils, or minerals of any kind that would tend in my opinion to warrant said lands being classed as mineral in character, and I respectfully recommend that they be relieved from suspension."

I said in my report that I made a careful examination of these lands, because I had made a careful examination as to any oil wells that might have been there. That is all, I did not examine the land with reference to oil seepages or oil sands. As I said before, I did not go all over the land and I did not see any. I looked for them but I did not see any along the road over the land that I did go over. So far as I know, there might have been oil seepages or oil sands on those lands that I didn't go [1268] over. I was not instructed to go over every legal subdivision of those lands.

In my general report of March 22, 1904, I included the lands in T. 30-23 along with about twenty-four other townships. I probably got over half the townships in this entire number and interviewed people relative to the oil wells that might be there.

In my report of March 22, 1904, plaintiff's exhibit 4 B, I said: "Township 29 S., Range 20 E. So far as I am able to ascertain, five wells were bored in

Section 36, and one in the northeast quarter of Section 13, in which only a small quantity of oil has been obtained. This does not appear to be a productive territory and in my opinion there is no necessity for the continuance of a suspension of the lands in this township." The reason why I made this recommendation that the suspension be relieved, although I actually found oil being produced in two sections of that township, was because it was not produced in paying quantities, and under the criterion that was given me, I recommended that it be released. I also reported: "From all I can ascertain, four wells were bored in the north half of Section 19, and one in the south half of Section 7, in which a small quantity of oil was obtained. One well was bored in Section 32 and two wells were bored in Section 31, all of which, I am informed, have been abandoned. In my opinion, there is no necessity for the continuance of the suspension of lands in this township." I say the same of this township that I did of the others, that it was not producing in paying quantities. I also reported on Township 30 South, Range 23 East: "No wells have been bored for oil and in my opinion all the lands in this township should be relieved from further suspension." On about fifty per cent of these townships, as I estimated, I recommended that they be relieved from suspension on mere hearsay evidence, as they had been suspended on mere hearsay evidence. Under my instructions, I [1269] interviewed stockmen, cattlemen and anybody that I had a chance to meet along the line, and those lands that

I didn't pass over, I interviewed people with regard to them, and I even interviewed people with regard to the lands that I did pass over.

I never got any instructions either orally or written from the General Land Office to determine specifically the mineral or non-mineral character of these lands.

CROSS EXAMINATION  
OF  
EDWIN C. RYAN.

I am now a special assistant to the District Indian Agent at Muskogee, Oklahoma, and have been located there nearly five years. I have been connected with the Department of the Interior since the spring of 1899, at which time I was employed as a special agent of the General Land Office and was located at Seattle. I went to Los Angeles in October, 1899, and remained there continuously as a special agent until the fall of 1907. During this time I was over a part of the oil fields. I do not know just when I first went into the oil fields but it may have been in 1900 or 1901, at Bakersfield.

Afterwards I was at McKittrick for a while, passing in and out. This may have been in 1901. I was not in there very frequently but I cannot say very definitely how often. I think I was probably in there a couple of times or more in 1903. I went in there in 1903 to look over these suspended lands. I knew a man in the vicinity of McKittrick by the name of D. W. Maddux, but I cannot say when I became

acquainted with him, though it may have been in 1902. I was also acquainted with Will Maddux, but I cannot remember the names of any other persons I knew in McKittrick. I have no recollection of what I did when I went to McKittrick on the various trips I have referred to. [1270]

I remember receiving the letter of Mr. Fimple, Acting Commissioner of the General Land Office, dated December 10, 1903.

I was located at Los Angeles when I received this letter. Although I had received instructions to examine part of the lands by the Commissioner's letter of October 23, 1903, I did not make any examination until January, 1904. When I made this examination in January, 1904, D. W. Maddux accompanied me. We made our headquarters at McKittrick and were engaged approximately three days in making the examination of the Elk Hills. I cannot say that we were not four days in this examination of the Elk Hills. As I remember, it was about three days. Then I went south to examine the other lands in 32-25, and the time mentioned in my letter is what I consumed in the whole trip.

If my letter of January 22, 1904, states that I made a careful examination of the lands in question in 30-23 and found no oil seepages or springs, surface or other indications of oil or minerals of any kind, I guess it is a fact. The report speaks for itself. I had no reason to make a false report.

My examination was made for the purpose of ascer-

taining if there was any oil wells on there; and I found no oil wells, and hence I made that report. I made that report in accordance with instructions.

I did not say that there were no oil seepages. I said that I found no oil seepages. When I said that I found no oil seepages, I meant that as a fact. And I found no surface or other indications of oil or minerals of any kind. That is what I said in my report, I believe.

When I reported on other things besides the existence of oil wells, it might be that I could have found oil seepages in paying quantities, but I did not find any. I reported on these matters because I did not find oil in paying quantities in those other matters. Possibly I included a report on matters [1271] that were not covered by my oral instructions. The letters of October 23 and December 10, 1903, did not confine my attention to a report on the presence or absence of oil wells merely, but my verbal instructions did. These instructions were given to me as I have said by Mr. Pollock, who was chief of our field service and who is now dead. They were given to me prior to the receipt of these written instructions to make this particular examination.

In making my examination of 30-23, I had a special letter of instructions from the Assistant Commissioner of the General Land Office, Mr. Fimple, who was a superior officer to Mr. Pollock, and this letter was received subsequent to my talk with Mr. Pollock. In making this examination of the Elk Hills I think

I went first on Sec. 29, although I cannot remember exactly. I do not remember where I went the first day, or the second, or third or fourth day. I think that on the first day I drove out there and kind of looked around to find a road that would carry me into the hills. We did not go to the same place every day. I did not get over very much of it because it was too hilly. Finally I found a place where I could look over practically all of the township. There was no development there at that time, that I could see. I don't think that I made any inquiries concerning this land, but Mr. D. W. Maddux who accompanied me may have told me something about it.

I came to Washington a week ago Saturday and since my arrival I have looked over my reports and have discussed the matter with Mr. Mills and with Mr. Flocker.

I am a son of Thomas Ryan who was Assistant Secretary of the Interior under President McKinley. My father is living now and is still in the government service connected with the Interior Department.

I remember making an examination of lands embraced within the withdrawal order prior to January, 1904, which I was [1272] informed by the Commissioner of the General Land Office was being applied for by the Southern Pacific Railroad Company, but I do not remember the description of the land. I think it was in the McKittrick District. I also think I made an examination of some land in T. 1 South, R. 20 West, San Bernardino Meridian sometime in 1903. This examination covered four or five other town-

ships and it took me ten days or two weeks to make it. In making this examination I searched for oil seepages, oil springs and surface indications of oil or minerals of other kinds. I made a report on this township but did not keep a copy of it.

It was my purpose to make correct reports of my observations and I had no reason for doing otherwise in any case. I don't believe I would know a gas blow-out if I would see it.

#### REDIRECT EXAMINATION

#### OF

#### EDWIN C. RYAN

If on Township 30 South, Range 23 East, I had found oil springs which were not producing oil in paying quantities, oil seepages which were not producing oil in paying quantities, and oil wells there which were not producing oil in paying quantities, I think I would have used the same language in my report on that township, as I found no oil wells nor seepages of oil in paying quantities, and that was my criterion, and I think I would probably have used the same language in the report. It would have been a question with me of finding oil wells, oil springs, or oil seepages producing oil in paying quantities before I would have classified that land as mineral. As I stated before, my criterion was oil in paying quantities. I made no extensive examination of the lands; I did not go over very much of the land. I just looked along the road, as my instructions did not require me to make a thorough and minute investigation of the land. In my report of March 22, 1904, I got most of

my data [1273] from a map. The language used by me in these reports, namely: "Oil seepages, oil wells, oil springs and surface indications which would tend, in my opinion, to warrant lands being classified or not classified as mineral lands," was a kind of stereotyped form that I used. I find it running through all my reports.

RECROSS-EXAMINATION  
OF  
EDWIN C. RYAN.

I think probably I used that as a kind of stereotyped form. In my report of March 22nd I was making a general report, and did not think it necessary to use that form. In my report of March 22nd I discussed at length the presence or absence of wells, and in doing that I was following the letter of instructions from Mr. Pollock as I understood them, but did not use the stereotyped form that I was accustomed to use. I understood definitely from Mr. Pollock that the only thing I was to report on was whether or not I found oil in paying quantities, and that is all I was looking for.

The mere fact that in my general report of January 22, on the lands including these involved in this suit I did not mention wells or "oil in paying quantities" at all, was just an omission, I guess. I should have mentioned wells.

My instructions I think will state what I was to do. They are in evidence, aren't they?

In making the examination of 30-23 I had a special

letter of instructions from the Special Commissioner of the General Land Office,—Mr. Fimple; and I think in that same letter there were other lands included. Mr. Fimple was a superior officer to Mr. Pollock.

During the time I was in California there were a number of special agents of the land department engaged in making an examination of the lands in various portions of the state. Some [1274] of these men were located in Los Angeles as early as 1901 and 1902. We had no general field division when I first went to Los Angeles but it was established, I think, in 1904 with headquarters at Los Angeles and I was put in charge and remained in charge of it until 1907. During this time I probably had four or five men working under me. [1275]

ERWIN W. OWEN, a witness called and sworn on behalf of the plaintiff, testified as follows:

#### DIRECT EXAMINATION

I reside at Bakersfield and am the son of the late Josiah Owen. My father died on December 19, 1909. He was a geologist and mineralogist and from 1902 until the time of his death he was employed by the Southern Pacific Company or the Southern Pacific Railroad Company, or by both, in their Geological Department. He was also employed during that same period by the Kern Trading & Oil Company. He was employed by these several companies as a geologist. He was first employed by the Southern Pacific Railroad Company in the latter part of 1898 or the early part of 1899 in Old Mexico. At that time he was

living at Eagle Pass, Texas. He had prosecuted his work as a geologist for thirty-five years before entering the employ of the railroad company and he got his training in the hills, together with what reading he could do. He never took any course in geology. After he entered the employ of the company in Mexico, he went to the state of Oregon prospecting for coal. I don't know which company he was doing the work for, but it was the Southern Pacific interests. After he left Oregon he went to San Francisco, still in their employ. While my father was in the employ of the Southern Pacific Railroad Company or the Southern Pacific Company, I would say from certain papers in my possession, that he reported to Mr. E. T. Dumble, with whom I am acquainted. Mr. Dumble was the Consulting Geologist of the Southern Pacific Company or the Southern Pacific Railroad Company. I know Mr. Dumble's handwriting. I have had correspondence with him. I was appointed administrator of my father's estate, and from his desk at his home in Los Gatos, California, I took possession of certain papers and letters belonging to him and they have been in my possession ever since and they [1276] are in the same condition now as they were when I took them. The following letter, marked plaintiff's exhibit 4H, was amongst those papers, and it reads as follows:

"Southern Pacific Company, E. T. Dumble, Consulting Geologist, Houston, Texas. P. O. Address: 1306 Main Street.

Houston, Texas, Sept. 11th, 1902.

J. Owen, Esq.,

San Francisco, Cal.

Dear Sir:

I wired you this morning to Medford to go to San Francisco at once to confer with Mr. Kruttschnitt about the oil situation in California.

In order that you may have the general geology of the region at hand I send you the enclosed map, section and notes. I think it will save you time to have it at hand.

With best wishes

Yours very truly

E. T. Dumble."

(Counsel for plaintiff here offered typewritten maps and notes which accompanied the above letter and which are marked plaintiff's exhibits 4H-1 and 4H-2, respectively. The notes, exhibit 4H-2, read as follows:

"The Kern river and McKittrick oil fields are different in every particular. The oil at Oil City is in a heavy bed of sand containing more or less clay in irregular masses. This bed seems to underlie the entire region, sloping very gently to the northwest, so that wells may be sunk anywhere within an area of several thousand acres with a certainty of striking oil.

The McKittrick field, however, shows a very sharp anticlinal structure and is confined to a comparatively

narrow line along its crest. I think there can be little doubt that the oils belong to entirely different series of deposits, that at [1277] McKittrick being in older beds than those of oil city.

At time of my visit the Co. had two sets of wells at Oil City. The first group of more than 20 wells is located on the river side of section 3 and the second along the north line of the same section and opposite those of the Imperial Oil Co. on Section 33. Only one well of this group was producing when I was there.

At McKittrick there were 9 wells of which 7 were producing. Another was being bored on Section 15.

From the enclosed map and pencil section you will see the conditions I found there.

In sinking wells the clay appears to exist in large lenses in the coarse granitic sand you will find outcropping on the bank of the river near where first indications were found. I do not remember thickness of oil sand, but it is my understanding that it is not safe to put wells down at the rate of more than one to each acre. That is a pumping well is supposed to drain the sand for 100 feet or more on every side.

Treadwell claims that the pumps in use are a patent of his machinist also that his rotary for pumping oil to tanks is the best possible arrangement.

The fact of the anticlinal structure at McKittrick is clearly shown in a ravine south of the hot springs where the bath house is or was. I went down and looked at it.

I suppose Mr. Kruttschnitt will explain just what

he wants. If not I understand that he wants you to get at the facts regarding the field, the number of wells drilled and drilling, and what it is costing to do the work, what the wells are producing and what they can be made to produce, whether the work is being done right or in a slipshod way and how to better it, and to learn what you can about the general condition of affairs. I suppose he will give you a list of the Companies properties including those they operate themselves and those they have leased to others. If he does [1278] not it will be well to ask for it. I suppose this will all be preliminary to our taking full charge later.

They still have me hustling here, running to one place and another in Texas and Louisiana so I see no likelihood of getting away immediately.

I think you will be able to get all the facts necessary. When you do and make your report, be sure to have it typewritten and keep a carbon copy."

The pencil handwriting on the second sheet of this paper, I think, is the handwriting of Prof. Dumble, and that on the third sheet of the same document, in pencil, is in the handwriting of my father, J. Owen. The papers I refer to consist of three papers marked plaintiff's exhibit 4-I, and are in words and figures as follows, to wit:

**LANDS FOR TRANSFER FROM  
SOUTHERN PACIFIC RAILROAD COMPANY  
TO KERN TRADING & OIL COMPANY**

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**KERN DISTRICT:**  
Township 29 S., R. 28 E.

1612      *The Southern Pacific Co. et al. vs.*

N. $\frac{1}{2}$ , N. $\frac{1}{2}$ of S. W. $\frac{1}{4}$ , and	
N. W. $\frac{1}{4}$ of S. E. $\frac{1}{4}$ , Sec. 3	436.56
	acres

McKITTRICK DISTRICT:

Township 30 S., R. 22 E.

Sec. 1.	857.87
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Lots 1, 4, 9 & 10, N.E. $\frac{1}{4}$ Sec. 11	100.36
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Township 30 S., R. 22 E.

Secs. 5, 9, 15, 23, 25, 33	3912.89
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All of Sec. 7 except NW $\frac{1}{4}$ of NW $\frac{1}{4}$	590.15
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N. $\frac{1}{2}$ , N. $\frac{1}{2}$ & S.E. $\frac{1}{4}$ of S.E. $\frac{1}{4}$ N $\frac{1}{2}$	
--	--

S.W. $\frac{1}{4}$ W. $\frac{1}{2}$ of S.W. $\frac{1}{4}$ of S.E. $\frac{1}{4}$	540.
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Sec. 17

All of Sec. 21, except W $\frac{1}{2}$ of S.W. $\frac{1}{4}$ &	
--	--

McKittrick town site	300.
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E. $\frac{1}{2}$ & E. $\frac{1}{2}$ & NW $\frac{1}{4}$ of NW $\frac{1}{4}$ , Sec. 27	440.
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N. $\frac{1}{2}$ & SE. $\frac{1}{4}$ of Sec. 35	480.
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Township 30 S., R. 23 E. Sec. 31.	640.38
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Township 31 S., R. 22 E.,

NE. $\frac{1}{4}$ of Sec. 15	160.
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NE $\frac{1}{4}$ of Sec. 23,	160.
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NE. $\frac{1}{4}$ of Sec. 25	160. [1279]
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Township 31 S., R. 23 E.,

Secs. 5, 7, 9, 15, 21, 23, 25, 27, 29, 33,	
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35	6396.76
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E. $\frac{1}{2}$ of Sec. 17	320.
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NE. 1.4 Sec. 35	160.
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Township 31 S., R. 24 E.

Secs. 31 & 33	1312.
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## MIDWAY &amp; SUNSET DISTRICTS:

Township 32 S., R. 23 E.,	
Secs. 1, 3, 11 & 13,	2564.30
N. $\frac{1}{2}$ of Sec. 5	320.80
Township 32 S., R. 24 E.,	
Secs. 3, 5, 7, 9, 11, 13, 15, 17, 19, 21,	
23, 25, 27, 29, 33, 35	10240.
Township 12 N., R. 24 W.	
Lots 1 & 2, Sec. 25	60.
Township 11 N., R. 24 W.	
NE $\frac{1}{4}$ , Sec. 1	159.89
Township 12 N., R. 23 W.,	
Sec. 29, 31, 33	1400.52 acres
Township 11 N., R. 23 W.	
Sec. 3, 5, 9	1287.70
N. $\frac{1}{2}$ & SE $\frac{1}{4}$ , Sec. 15	480.

## COALINGA DISTRICT:

Township 19 S., R. 15 E.,	
Secs. 1, 3, 5, 11, 13, 23, 25, 31, 33, 35	6400. acres
(Including leases on Sec. 31)	
Township 20 S., R. 14 E.,	
Secs. 1, 13, 23, and 25	
(Including leases, on each)	
Township 21 S., R. 14 E.,	
S. $\frac{1}{2}$ & NW $\frac{1}{4}$ of NE. $\frac{1}{4}$ , NW. $\frac{1}{4}$	
SE. $\frac{1}{4}$ , N. $\frac{1}{2}$ & SE $\frac{1}{4}$ of SW. $\frac{1}{4}$	560.
E. $\frac{1}{2}$ & E. $\frac{1}{2}$ of NW. $\frac{1}{4}$	400.
Township 20 S., R. 15 E.	
Sec. 1, 3, 5, 7, 17, 29, 33	4573.76
W. $\frac{1}{2}$ of Sec. 9,	320.

1614      *The Southern Pacific Co. et al. vs.*

NW. $\frac{1}{4}$ & E. $\frac{1}{2}$ Sec. 19	488.18
W. $\frac{1}{2}$ Sec. 21	320.
N. $\frac{1}{2}$ Sec. 31	328.53
Township 21 S., R. 15 E.	
Sec. 3, 5, 17, 19, 21, 27, 29	4661.68
W. $\frac{1}{2}$ , Sec. 15	320.
E. $\frac{1}{2}$ of Sec. 23	320.

(In pencil):

Mr. Owen—check this and see if we want  
any other land or if we should leave  
any of this off.

(Written in ink):

Town. 21 S—Range 14 E. M.D.M.,

West  $\frac{1}{2}$  of Sec 1

E  $\frac{1}{2}$       “      “      11

[1280]

All S 13 & 23-27-35

E  $\frac{1}{2}$  Sec 25 & E  $\frac{1}{2}$  of NW  $\frac{1}{4}$

Will add

all of Sec 31-33 & 29 of Town 26 Range 21 E M D M.

(In pencil)

Have examined and approve for lease to K T  
& O Co. the above lands with additions noted.

J.

Plaintiff's exhibit 4-J is in the handwriting of my  
father, J. Owen, and the following is a copy:

(4-2-02—200M.)

2 T G 9 A

SOUTHERN PACIFIC COMPANY

Sunset Ogden & Shasta Routes.

Rates quoted by this company are for immediate  
use unless otherwise stated, and are subject to  
change without notice, except the printing and

posting of tariffs when law so provides.

Rates named on commodities in carloads will base on full space or weight loading capacity of car, but not less than minimum carload weight as provided in tariffs load 10 per cent above weight capacity marked on car when space permits.

(pencil)

McKittrick, Mar 25, 1903

Professor E. T. Dumble.

Dear Sir

I took up the investigation of the oil field at McKittrick on Feb. 3d. I failed to see Mr. Treadwell he was away from Bakersfield and Mr. Ott was compelled to be away on act of Sickness in his family So I had no data whatever in regard to the occurrence of the oil here I believe however I have been able to correctly locate the fold or anticline upon which most of the oil wells are located although I have been compelled to modify some of my first impressions. I find that the directions of the fold is not uniform [1281] and that there appears to be a complete system of folds converging toward the principal upraise of the Dist—known as Siera Diablo Range of Montana These later folds are not exactly parallel to the main Range and no two of them are exactly parallel According to Watts (pencil)—Anderson places it in upper Miocene—the McKittrick Oil Horizon belongs to the Middle Neocene formation I find that the McKittrick Horizon does not belong to the same se-

ries as the center of the principal range and as a consequence only follows along the foothills of the main range and terminates at a point Several miles from the Main range although it appears to enter the main Range on the N W The Sharp Anticlinal fold of the McKittrick oil field appears to terminate a short distance S.E. of Tempore but another Anticline belonging to Older rocks takes its place and continues on in the Same direction as evidence that these older rocks wer also an older upraise I find the sands and gravels of the McKittrick Horizon largely made up from the debris from these older hills— These Older rocks dont appear to be Oil bearing they are probably of Cretaceous age The McKittrick series swings around to the N E and follows the low foothills of the Main range The Oil bearing sands diminish in that direction but Oil will probably be found in the Shales it is represented by cepages The termination of the McKittrick Oil Horizon will be found 100 yds North of the Climax wells at Temblor there wells represent the extreme limit at which Oil will be found in that direction but the Oil Horizon swings around to the East about two miles and then continues in a N W direction The Oil of the McKittrick fold terminates about the center of Sec 1 Town 30 S Range 20 E and from this point S E the crest of the fold passes through or near Sec 6-5-4-10-11-13 and 24 Town 30 S- R-21-E thence through Sec 18-19-20-28-27 and 34 Town 30 S R 22-E and terminates south of Sec. 3 Town 31 S R 22 E the last exposure of oil sands is near the center of Sec 3 last mentioned. See

sketches of field in Town plats There is a change in the direction of the strike of [1282] the fold near the center of Sec 34 T 30 S R 21 E from this point it turns due South to the center of Sec 3 as above stated and from the termination of the hills one & 1/2 mile further South the oil Horizon will be represented in the Monocline of the Midway district The accompanying Sheet or map represents the complex nature of the various folds The fold North of the McKittrick and running nearly parallel passes through Sec 5-9 between 11 & 15 through 13 of Town 30 R 22 This fold exposes the oil sands in several places and in some of the exposures the sands are strongly impregnated with Asph and producing wells ought to be found along this exposure the Asphaltum exndes through the overlaying clays in many places I have marked the Sections most favorably located for oil along these different folds—There is but one oil Horizon in this field and below this Horizon there are 1500 feet of white Slate below which the Slates are Non-conformable and probably belong to another Series of Rock—There are several thousand feet of these Slates or Shales they compose the main Diablo Range are tilted up almost vertical and these in turn rest upon Sandstones of great thickness which are exposed above Temblor Rancho but at this place the Shales below the oil Horizon are not seen on the east side of the main upraise but are exposed on the west side- At the East side, North East of Temblor the Oil Horizon rests directly upon these massive sands In the direction of Midway I find that the McKittrick

fold flattens out in the valley but other hills further on in the same direction would indicate that it may expend to near the Kern Lake The Midway Oil sands belong to the Same Horizon as the McKittrick Oil Sands This Horizon only extends into the foothills of Mt. Diablo Range a short distance and from Sec. 6 to Sec. 27 Town. 31, Range 22, the outcrop forms a semi circle along the foothills and are well exposed, forming in many places a chain of low sandy hills that can be distinguished for several miles by their green verdure [1283] and dark color, caused by the sands absorbing more moisture and bearing more vegetation. The following Section was, seen on Sec. 17 commencing at Nonconformity of Series (see on 28) below the oil sands and coming upward to the top of the Oil Horizon—

Section of Oil Sands & Rocks below

White Slate .....	1500 ft.	
Slate Breccia .....	6 ft.	6
Coarse white Granite Sand....	50 ft.	50
White Slate .....	1.25 ft.	125
Hard yellow slate Breccia....	6 ft.	6
White porous loose sand.....	100 ft.	100
White and yellow Slate.....	15 ft.	15
Yellow very loose coarse Sand .....	30 ft.	30
White Slate .....	150 ft.	150
White Coarse Sand.....	35 ft.	35
White Slate and yellow Clay	40 ft.	
		<hr/>
oil sands		517 ft.
(pencil)		sands

This makes the Oil Sands proper 517 feet thick but they thin out perceptibly in a N West direction and thicken up in a S E direction until at one place there is an exposure of 1000 feet or more and one peculiarity of the thickest beds is that in many places some of the beds are nearly wholly composed of Granite Boulders from small pebbles to one 12 ft. long by 5 by 6 weighing Several tons It is useless to speculate how they got there but it appears incredible that these immense Boulders could have been brought a long distance by water This Sand or the upper beds of it are the sands that furnish the oil at Midway There is but this one oil Horizon in this Series of rocks although near Temblor Oil has been struck in the Slates and the sands of this (Mc K Horizon) appear to thin out in a N W Direction By reference to sketch No. 3 it will be seen that there appears to be some relation between the Strata penetrated in the well of the 1901 Co in Sec 34-T-31-S-Range 22 E The Section accompanying the well Section was taken on Sec 17-T-31 S-R 21 E a distance of nearly or quite 10 miles— None of the sands where they terminate on the mountain side are oil bearing but are a very loose friable sand that will crumble by its own weight I See no reason why these sands should not be found oil [1284] bearing from a mile or so from this outcrop on the mountain side to where the productive wells have been drilled There appears to be an accumulation of something like 2200 feet of sediments above these sands There has been several wells drilled between the 1901 Cos wells and the outcrop of sands mentioned

but from the best data I can obtain none of them entered the Sands nor was any of them drilled deep enough to penetrate them hence their failure to find oil In my opinion this is a splendid field for the investment of Capital but the Investors should understand that they must expect to drill to a depth of 2200 feet or 2500 feet to penetrate the oil sands— At Midway these sands are struck from 1000 to 1200 feet and furnish some good wells Midway is only one mile or a little more from the sand outcrop The Sand outcrop is not exposed west of McKittrick on the Mountain side it appears as though later deposits extended further up the side of the mountain and covered the sands This must represent a gradual sinking of the Surface during the deposition of these rocks I have traced the outcrop of the Oil Horizon all the way to Sunset Oil field and find that there is but the one Oil Sand and I believe it will be possible to trace the same Horizon to the Kern River fields There are several reasons for believing that they all belong to the Same zone

Respectfully

The pencil notations on that exhibit were made by my father, J. Owen. (Witness is now shown a carbon copy of plaintiff's exhibit 4-J.) This carbon copy of plaintiff's exhibit 4-J seems to have been in my father's handwriting. The reading of the first page is about the same. This letter is marked plaintiff's exhibit 4-K. The next to the last sheet of exhibit 4-K is in J. Owen's handwriting, as also is the last sheet. When

my father [1285] was in Texas, I remember that it was his custom, he not being a very good writer, to do his writing in his own handwriting and then have it typewritten. The signature, "J. Owen", on exhibit 4-K is my father's hand-writing. (It was here stipulated by counsel that the yellow sheets which constitute plaintiff's exhibit 4-J are the regular letterheads of the Southern Pacific, the regular form used at that time by the Southern Pacific Company.) I have here, in the handwriting of my father, a certain report entitled "Lands not Oil". It is dated July 6, 1905, and the entire paper is in my father's handwriting. This paper is now marked plaintiff's exhibit 4-L, and is in words and figures as follows:

NOT OIL LANDS

July 6, 1905

The accompanying list of lands have been carefully examined for Oil and Coal and no indication of either has been found upon the Land and there location makes it very probably that they do not contain oil.

Yours truly

J Owen

(Reverse side)

Prob. Oil Lands.

	Sec.	T	R	MDM	Acres
All	17	17S	13E	"	640
"	19	"	"	"	640
"	19	16S	14E	"	639
"	5	25S	17E	"	662.52
Fr. S $\frac{1}{2}$ of NE $\frac{1}{4}$ ; S $\frac{1}{2}$ of Lot 1				"	"

	Sec.	T	R	MDM	Acres
S $\frac{1}{2}$ of Lot 2; Lots 4-5-10	"	"	"		
S $\frac{1}{2}$ of Lot 9; SW $\frac{1}{4}$ of SE $\frac{1}{4}$	7	"	"	"	353.05
Lots 6-7-8; N $\frac{1}{2}$ of Lot 9	7	"	"	"	153.15
[1286]					

# LANDS EXAMINED AND NOT CONSIDERED OIL LANDS

	Sec.	T	R	MDM	Acres
" SE $\frac{1}{4}$ & S $\frac{1}{2}$ of SW $\frac{1}{4}$	1	16S	13E	"	240
" NE $\frac{1}{4}$ of SE $\frac{1}{4}$ ; S $\frac{1}{2}$ of SE $\frac{1}{4}$					
" SE $\frac{1}{4}$ of SW $\frac{1}{4}$	9	"	"	"	160
All	11	"	"	"	640
"	13	"	"	"	640
"	15	"	"	"	640
Fr. S $\frac{1}{2}$ of NE $\frac{1}{4}$ ; NE $\frac{1}{4}$ of NE $\frac{1}{4}$	17	"	"	"	120
" SE $\frac{1}{4}$ of NW $\frac{1}{4}$ ; SE $\frac{1}{4}$ ; SW $\frac{1}{4}$	17	"	"	"	360
All	19	"	"	"	635.20
"	21	"	"	"	640
"	23	"	"	"	640
"	25	"	"	"	640
"	27	"	"	"	640
"	29	"	"	"	640
"	31	"	"	"	639.20
"	35	"	"	"	640
Fr. NE $\frac{1}{4}$ (lots 1-2-6-7)	5	17S	13E	"	198.85
" NW $\frac{1}{4}$ ; SE $\frac{1}{4}$ ; SW $\frac{1}{4}$	5	"	"	"	518.95
All	7	(probably a mistake)			269
All "C"	9	17S	13E	MDM	640

	Sec.	T	R	MDM	Acres
Fr. N $\frac{1}{2}$ & SW $\frac{1}{4}$	7	16S	14E	"	478.40
All	9	"	"	"	640
Fr. SW $\frac{1}{4}$	11	"	"	"	160
" NW $\frac{1}{4}$	15	"	"	"	160
" SW $\frac{1}{4}$	15	"	"	"	160
All	19	"	"	"	639
"	21	"	"	"	640
Fr. E $\frac{1}{2}$	23	"	"	"	320

April 5, 1899

Fr. NW $\frac{1}{4}$ & S $\frac{1}{2}$	27	16S	14E	MDM	480
All	29	"	"	"	640
All	31	"	"	"	640.30
"	33	"	"	"	640
Fr. NE $\frac{1}{4}$ ; SE $\frac{1}{4}$ ; & SW $\frac{1}{4}$	35	"	"	"	480

[1287]

All	1	17S	14E	"	638.62
"	3	"	"	"	673.69
"	5	"	"	"	709.40
"	7	"	"	"	642.12
"	9	"	"	"	640
"	11	"	"	"	640
"	13	"	"	"	640
"	15	"	"	"	640
"	17	"	"	"	640
"	21	"	"	"	640
Fr. N $\frac{1}{2}$ ; N $\frac{1}{2}$ of SW $\frac{1}{4}$	23	"	"	"	400
" S $\frac{1}{2}$ of SW $\frac{1}{4}$ ; SE $\frac{1}{4}$	23	"	"	"	240
All	25	"	"	"	640
"	27	"	"	"	640

April 5, 1899

	Sec.	T	R	MDM	Acres
Fr. NW $\frac{1}{4}$	1	25S	17E	MDM158.73	
Fr. SE $\frac{1}{4}$ & SW $\frac{1}{4}$	9	"	"	"	320
" NW $\frac{1}{4}$ ; W $\frac{1}{2}$ of SW $\frac{1}{4}$ ;					
NE $\frac{1}{4}$ of SW $\frac{1}{4}$	11	"	"	"	280
S $\frac{1}{2}$ of SE $\frac{1}{4}$ ; SE $\frac{1}{4}$ of					
SW $\frac{1}{4}$	11	"	"	"	120
SE $\frac{1}{4}$	13	"	"	"	160
NW $\frac{1}{4}$	13	"	"	"	160
All	15				640
Fr. NE $\frac{1}{4}$ & SW $\frac{1}{4}$					
All	5	"	"	"	662.52
Fr. S $\frac{1}{2}$ of NE $\frac{1}{4}$ ; S $\frac{1}{2}$ Lot 1		"	"	"	
Fr. S $\frac{1}{2}$ of Lot 2; Lots 4-5-10		"	"	"	
Fr. S $\frac{1}{2}$ of Lot 9; SW $\frac{1}{4}$ of					
SE $\frac{1}{4}$	7	"	"	"	353.05
Fr. Lots 6-7-8; N $\frac{1}{2}$ of Lot 9	7	"	"	"	153.15
" SE $\frac{1}{4}$ & SW $\frac{1}{4}$	9	"	"	"	320
" NW $\frac{1}{4}$ ; W $\frac{1}{2}$ of SW $\frac{1}{4}$ ;					
NE $\frac{1}{4}$ of SW $\frac{1}{4}$	11	"	"	"	280
S $\frac{1}{2}$ of SE $\frac{1}{4}$ ; SE $\frac{1}{4}$ of					
SW $\frac{1}{4}$	11	"	"	"	120
SE $\frac{1}{4}$	13	"	"	"	160
NW $\frac{1}{4}$	13	"	"	"	160
All	15	"	"	"	640
Fr. NE $\frac{1}{4}$ of SW $\frac{1}{4}$	17	"	"	"	40
Fr. N $\frac{1}{2}$ of SE $\frac{1}{4}$ ; S $\frac{1}{2}$ of					
NE $\frac{1}{4}$	17	"	"	"	160
" W $\frac{1}{2}$ of NW $\frac{1}{4}$ ; NW $\frac{1}{4}$ of					
SW $\frac{1}{4}$	17	"	"	"	120
NE $\frac{1}{4}$ ; SE $\frac{1}{4}$ ; Lots 1-2-					

*The United States*

1625

	Sec.	T	R	MDM	Acres
9-10	19	"	"	"	640
Lots 7; S $\frac{1}{2}$ of Lot 8	19	"	"	"	56.80
All	21	"	"	"	640
Fr. NE $\frac{1}{4}$ ; NW $\frac{1}{4}$ ; NW $\frac{1}{4}$ of					
SW $\frac{1}{4}$	23	"	"	"	360
" NW $\frac{1}{4}$ of NW $\frac{1}{4}$	27	"	"	"	40
" N $\frac{1}{2}$	29	"	"	"	320
" S $\frac{1}{2}$ Lot 2 Lots 4-5-7	31	"	"	"	182.35
" Lot 1; N $\frac{1}{2}$ of Lot 2 Lot					
3 & 5					
" NW $\frac{1}{4}$ of SE $\frac{1}{4}$	31	"	"	"	257.49
" NE $\frac{1}{4}$	1	24S	18E	"	161.21
" NW $\frac{1}{4}$	1	"	"	"	163.78
SE $\frac{1}{4}$	1	"	"	"	160
" SW $\frac{1}{4}$	1	"	"	"	160
All	9	25	18	"	640
					[1288]
All	1	31S	24E	"	640
"	3	"	"	"	640
"	5	"	"	"	640
"	9	"	"	"	640
"	11	"	"	"	640
All	23	"	"	"	640
"	29	"	"	"	640
"	35	"	"	"	640

(Reverse side)

86.40

100

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864000

4480

500

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2,240.000

## Not Oil Lands

\*           \*           \*

Witness now produced certain schedule of lands, together with a letter from Mr. Owen to Mr. Dumble dated July 6, 1905, entitled "Oil Lands and Probable Oil Lands", which is received in evidence and marked plaintiff's exhibit 4-M, and is in words and figures as follows:

## OIL LANDS

July 16th 1905

Professor E. T. Dumble

Dear Sir:

I transmit herewith report on S P Lands, beginning with Town 16 S Range 13 E M. D. M. and including all lands not previously reported as far south as and including Town 25 S Range 18 E M. D. M. in accordance with plan adopted in previous reports I have included all sections where parts of sections are considered Oil land and the rest doubtful

Yours truly

J OWEN [1289]

## PROBABLE OIL LANDS

	Sec.	T	R	MDM	Acres
All	17	17S	13E	"	640
"	19	17S	13E	"	639
"	23	22S	15E	"	640
" E $\frac{1}{2}$	17	22S	15E	"	520
"	21	"	"	"	640
Fr. NE $\frac{1}{4}$ of	5	24S	18E	"	177.89
(In Pencil) W $\frac{1}{2}$ of SE $\frac{1}{4}$ ..	24	17			80

	Sec.	T	R	MDM	Acres
Fr. SE $\frac{1}{4}$ ; SW $\frac{1}{4}$ of NW $\frac{1}{4}$ ; SE $\frac{1}{4}$ of SW $\frac{1}{4}$ ; W $\frac{1}{2}$ of SW $\frac{1}{4}$	5	"	"	"	320
NE $\frac{1}{4}$ of SW $\frac{1}{4}$	5	"	"	"	40
" NE $\frac{1}{4}$ ; NW $\frac{1}{4}$ ; E $\frac{1}{2}$ of SE $\frac{1}{4}$					
Fr. W $\frac{1}{2}$ of SW $\frac{1}{4}$	7	"	"	"	495.52
E $\frac{1}{2}$ of SE $\frac{1}{4}$	7	"	"	"	80
E $\frac{1}{2}$ of SW $\frac{1}{4}$	7	"	"	"	80
NE $\frac{1}{4}$ & SW $\frac{1}{4}$	9	"	"	"	320
SE $\frac{1}{4}$	15	"	"	"	160
NE $\frac{1}{4}$	17	"	"	"	160
N $\frac{1}{2}$ of NW $\frac{1}{4}$ ; SE $\frac{1}{4}$ of NW $\frac{1}{4}$ SE $\frac{1}{4}$ ; NE $\frac{1}{4}$ of SW $\frac{1}{4}$	17	"	"	"	320
SW $\frac{1}{4}$ of NE $\frac{1}{4}$ ; NW $\frac{1}{4}$ ; NW $\frac{1}{4}$ of SE $\frac{1}{4}$ ; S $\frac{1}{2}$ of SE $\frac{1}{4}$	21	"	"	"	320
SW $\frac{1}{4}$	21	"	"	"	160
SE $\frac{1}{4}$	23	"	"	"	160
S $\frac{1}{2}$	25	"	"	"	320
SW $\frac{1}{4}$ of NW $\frac{1}{4}$ ; NW $\frac{1}{4}$ of SW $\frac{1}{4}$					
S $\frac{1}{2}$ of SW $\frac{1}{4}$	27	"	"	"	160
E $\frac{1}{2}$ of SE $\frac{1}{4}$ ; NE $\frac{1}{4}$ of NW $\frac{1}{4}$	27	"	"	"	120
Fr. SW $\frac{1}{4}$ of —————	29				160
SE $\frac{1}{4}$ —————	31				160
SW $\frac{1}{4}$ of SW $\frac{1}{4}$	35	"	"	"	40
NW $\frac{1}{4}$ of NE $\frac{1}{4}$ ; S $\frac{1}{2}$ of					

	Sec.	T	R	MDM	Acres
NE $\frac{1}{4}$ NW $\frac{1}{4}$					200
NW $\frac{1}{4}$ of SE $\frac{1}{4}$ ; N $\frac{1}{2}$ of SW $\frac{1}{4}$	35	"	"	"	80
N $\frac{1}{2}$ of NW $\frac{1}{4}$	1	25S	18E	"	79.69
Fr. SW $\frac{1}{4}$	3	25S	18E	"	160
S $\frac{1}{2}$ of NW $\frac{1}{4}$ & NW $\frac{1}{4}$ of NW $\frac{1}{4}$	11	"	"	"	120
SW $\frac{1}{4}$ of NE $\frac{1}{4}$	11	25S	18E	"	40
Fr. Also NE $\frac{1}{4}$	9	"	"	"	160
N $\frac{1}{2}$ & SE $\frac{1}{4}$	7	31S	24E	"	480
All	27	22S	15E	"	640

(On reverse side, in pencil)

## PROBABLE OIL LANDS TOWN 24S RANGE 18E

Sec. 7—NE $\frac{1}{4}$ ; NW $\frac{1}{4}$ ; E $\frac{1}{2}$  of SE $\frac{1}{4}$  495.52 acres

Sec. 7

Sec. 7—W $\frac{1}{2}$  of SE $\frac{1}{4}$  and E $\frac{1}{2}$  of SW $\frac{1}{4}$ Sec. 9—T24 SR18E NE $\frac{1}{4}$  and SW $\frac{1}{4}$ Town 24 SR18E Sec. 17 N $\frac{1}{2}$  of NW $\frac{1}{4}$ ; SE $\frac{1}{4}$  of NW $\frac{1}{4}$ SE $\frac{1}{4}$ ; NE $\frac{1}{4}$  of SW $\frac{1}{4}$  320 acres  
[1290]Sec. 21—SW $\frac{1}{4}$  of NE $\frac{1}{4}$  NW $\frac{1}{4}$  and SW $\frac{1}{4}$  480 acresSec. 27—SW $\frac{1}{4}$  of (Balance of line not distinguishable)S $\frac{1}{2}$  of SW $\frac{1}{4}$  160 acresE $\frac{1}{2}$  of SE $\frac{1}{4}$  NE $\frac{1}{4}$  of NW $\frac{1}{4}$  120 acresSec. 35—NE $\frac{1}{4}$  of NE $\frac{1}{4}$ ; NW $\frac{1}{4}$ ; W $\frac{1}{2}$  of SW $\frac{1}{4}$ ; SW $\frac{1}{4}$  of SW $\frac{1}{4}$  320 acresNE $\frac{1}{4}$  of NE $\frac{1}{4}$ ; S $\frac{1}{2}$  of NE $\frac{1}{4}$ NW $\frac{1}{4}$  of SE $\frac{1}{4}$  160 acresTown 24S R17E Sec. 1 West  $\frac{1}{2}$  of SE $\frac{1}{4}$  80 acresTown 25S R18E Sec. 11 NE $\frac{1}{4}$  of SW $\frac{1}{4}$  40 acres

(A plat of Township 30 South, Range 22 East, is now offered in evidence and marked plaintiff's exhibit 4-N. The hand-writing on this exhibit is identified by this witness as being mostly his father's handwriting.)

The witness here identified letter dated July 20, 1905, addressed to Professor E. T. Dumble, and which is marked plaintiff's exhibit 4-O, and which is in words and figures as follows:

7564

July 20, 1905.

Professor E. T. Dumble,

Consulting Geologist, City.

Dear Sir: I herewith hand you a statement of all productive oil lands divided as first class productive oil lands, second class productive oil lands, and third class oil lands; also, lands designated as first class probable oil lands, and second class probable oil lands.

First class productive oil lands comprise those sections where actual development work has proven the land to be good oil territory. The second class productive lands comprise those sections which adjoin productive sections, and contain the oil horizon with all surface indications as far as can be seen indicating the presence of oil on the land. The third class lands are those in the immediate vicinity of the second [1291] class lands and contain the oil horizons but no development work has been done upon them.

The first class probable oil lands are lands where

the oil horizon has been traced through them or where surface indications give promise of good productive lands. The second class probable oil lands are those sections which contain the horizons of the first class probable lands and adjoin them or are upon an anticline where the indications for oil or asphaltum are found.

In previous reports on oil lands I included all of sections where a part of the section contained oil and the balance was doubtful. In this report I have only included the sections and parts of sections actually upon the oil horizons. Therefore, this report will not exactly correspond to the plats of oil lands given in previous reports.

The total number of acres comprised in all classes of productive and probable oil lands are 91,311 acres with an aggregate value of \$17,326,800.

Yours truly,

OR

CMR

(Witness here identified a letter dated October 9, 1902, from Mr. Owen to Mr. Kruttschnitt, and which is marked plaintiff's exhibit 4-P, and which is in words and figures as follows, to wit:)

Medford, Oregon, Oct. 9th, 1902.

(in pen)

Mr Kruttschnitt

Sir:

At Mr. Worthington's request, I sent a supplement to my report on the Coalinga oil field, giving a sketch of the [1292] out-line of the oil territory

owned by the S. P. Co., and such data as I possess in regard to the topography of the country between Coalinga and the center of the oil district that would give an idea of the feasibility of building a switch or branch line to connect the oil territory with the R. R.

Section 7, Township 20, S. Range 14 East will be as near the center of the oil field as it will be necessary to build a branch. The dotted line (on the plat enclosed) direct from Coalinga to Sec. 7, passes over a very level plain with a slight upgrade of 300 feet from Coalinga to the center of this Section. This represents a diagonal line across four sections.

Little more work will be required, than to surface the road-bed and bridge one or two dry branches. There is an old coal road-bed (now abandoned) graded from Coalinga to section 26-T. 20 S. R. 14 E. (see sketch). This graded road-bed runs for most of the distance through S. P. Co. lands. I don't know who are the owners of it. If the track was re-laid, to near the line of Section 26, then carried across to Section 7, as above mentioned, it would give an out-let for the oil territory on Section 26 and 23 and afford the tenants of the other R. R. lands the same facilities they would obtain if the line was built direct from Coalinga to Section 7. Should a line be built direct from Coalinga to Section 7, it will benefit the tenants on Section 23, but very little. There can be but very little difference in the amount of work on two routes and the

circular route via Section 26, will for most of the distance pass through or contiguous to oil territory, much of which is yet undeveloped.

The shaded Sections on the plat represents the Company's oil lands. The South Eastern extremity of the oil field has not been determined and other Sections besides those colored, may yet be included in the oil territory.

Respectfully,

(In ink) J Owen [1293]

(At this point in the testimony of this witness, the letter marked "Plaintiff's Exhibit 4-Q was identified and received in evidence.)

Q. Have you some reports there on reserved lands included in certain townships?

A. Yes, sir.

Q. Just examine those and state whether you found them in the same condition, attached, as they are now.

A. I did.

Q. Have you examined to see whether Township 30-23 is contained among those papers?

A. I have.

Q. And is it, or not?

A. It is not.

Mr. Mills: Let this be marked, for identification, 4 R.

The report last referred to is marked "Plaintiff's Exhibit 4 R—LL."

Mr. Mills: These appear to be undated, Mr. Lewers, but we offer them in evidence.

Q. By Mr. Lewers: Mr. Owen, do you know when this list was prepared?

A. I do not.

Q. Did you ever see it before the time you found it in your father's papers?

A. I did not.

Q. Was your father anywhere in the vicinity of McKittrick up to the time of his death?

A. Very frequently.

Q. And do you know whether he made any examinations of land [1294] in there in 1907, '08, and '09?

Mr. McCormick: That is objected to, on the ground that this is not cross-examination and that has nothing to do with the question whether or not this document is admissible.

A. I am certain that he did.

Q. My Mr. Lewers: And, so far as you know, this report might have been made in 1907, 1908 or 1909?

A. I have no way of telling when that was written at all, and could not state when it was made.

Q. Your father had some interests of his own in that vicinity in the later years of his life, did he not?

A. East of the McKittrick field a few miles; yes.

Mr. Lewers: We object to the introduction of the document, first, on the ground that it appears that it does not concern any of the lands in controversy; second, that the document is unaccounted

for as to when it was prepared, and, so far as appears from the face of it, might have been prepared long after the patent was granted; and, next, on the ground that it in no way appears to have been communicated to any officer or agent of the grantee company.

Mr. Mills: I will read this exhibit into the record, and let it be marked Plaintiff's Exhibit 4 R.

The report last referred to and offered in evidence is marked "Plaintiff's Exhibit 4 R—L.L.", and is as follows:

Town 30 S. Range 22 E M D M

The anticlinal fold mentioned as running through Town 30 S Range 21 E. continues through this Township. This anticline is not as sharp as the McKittrick anticline and as a consequence the area of available oil sands are much more than the McKittrick fold.

This anticline enters the Township near the N.W. corner of Sec. 6 and leaves it near the corner of Sec. 25. Two producing oil wells have been drilled on Sec. 6 on this anticline and Bituminous [1295] deposits are found in numerous places along the anticline. In addition to the above mentioned Horizon The McKittrick Oil Horizon runs through this Township. It enters the Township on the South near the center line of Sec. 34 runs  $\frac{1}{2}$  mile due north there turns in a N W direction runs diagonally through Sec 28 And to the center of Sec 20 where it turns to a more westerly direction and passes out of the Township near the N W corner of

of the S W  $\frac{1}{4}$  of the N W  $\frac{1}{4}$  of Sec 19 This anticline is a very sharp fold the Strata dipping at various degrees ranging from  $19^{\circ}$  to  $82^{\circ}$ .

There appears to have been a lateral thrust which left the fold with the appearance of having been broken and in at least one place there is a thrust where one end of the fold laps past the other end making it somewhat difficult to follow the apex of the fold

#### TOWN 30 S RANGE 21 E

There is but one section of land owned by the S P Co in this town which can be considered as probable oil land. There is an Anticlinal fold running through this Sec from N W to S E wells have been drilled upon this Anticline which are represented to produce as much as 75 bbls per day The Sands producing the oil along this Anticline are entirely distinct and separate from the Sands of the McKittrick anticline The latter oil Sands are below a shale Horizon which is 1500 or 2000 feet thick while the sands on Sec 1 of this Town are above the shales above mentioned.

#### TOWN 24S RANGE 18E

The Anticlinal fold which runs just north of Dudley extends from Sec 7 on the west line of the Town Diagonally across the Township to near the S E Corner of Sec 34 This Anticlinal fold brings the Buttonbed Horizon near enough to the Surface to be reached with the Drill as there is but about 1000 ft of these Shales where in place it is quite

probable that much of this has [1296] been carried away by Erosion There is a fair probability that this land is oil territory but unfortunately most of the Valuable portion of it has been Sold for grazing land

#### TOWN No 23 S RANGE No 17 S

The Oil City or Eocene Horizon enters this Town near the middle of the west line of Sec 7 and runs diagonally across the Township and disappears between the Miocene Shales near the middle of Sec 21. The Miocene Shales lap over onto the Cretaceous and form an anticlinal ridge extending S E This anticlinal ridge finally terminates as an anticline in the Monterey Shales but extends through the balance of this Town. Oil Wells ought to be obtained along near the outcrop of the Eocene beds and the Button bed Horizon ought to be reached through the Monterey Shales along this anti-cline.

#### TOWN NO. 24S RANGE 17 E

The Anticlinal fold in the monterey Shales runs through the center of Sec 1 of this Town from N W to S E The Button bed Horizon ought to reach these Sands beneath the Monterey Shales The Pliocene Sands are exposed in the Sunflower Valley in this Town but there is no evidence that they are oil bearing

#### TOWN NO. 25 S RANGE 18 E M D M

The Dudley Anticline enters this Town near the N W corner of Sec 2 and extends diagonally across

to the S E corner of Sec 24 This Anticline is probably Oil territory Tar Springs occur on Sec 24 and prospect wells drilled are said to be able to produce 15 bbls of oil per day. All S. P oil lands in this Town were sold except 80 acres, [1297]

TOWN 32 S RANGE 24 East

The reserved sections in this Township are along and near the apex of a short anticline on Sec 11 near the west line there are extensive deposits of Asphaltum strongly impregnated with crystals of Sulphur The indications for oil are good No development work has been done nearer than the Midway fields

TOWN No. 32 S RANGE 23 E M D M

The reserved Sections in this Township are located upon the Midway Monocline and are very probably good oil territory

Very favorably located and may be considered as undoubted oil territory.

TOWN 31S RANGE 22 E M D M

The small amount of probable oil land owned by the S. P. Co. in this Town lays along the lower edge of the Midway Monocline and near the valley There are no Surface indications of oil upon these tracts of Land but they are located upon the Oil Horizon which furnished the Oil at McKittrick and also at Midway

TOWN 31 S RANGE 23 East M.D. M.

The reserved Lands in this Township are loaced upon an anticlinal fold across the Valley to the N E

of the Midway Oil Horizon The Sands of the Midway Oil Horizon can be reached upon the Sections reserved at a moderate depth there are no surface indications upon these reserved sections but in other parts of this Anticlinal fold there are extensive Asphaltum deposits indicating the possible presence of Oil in the Sands below. [1298]

I have the plat-book which was prepared by my father and kept by him. The first leaf of the plat-book is here marked plaintiff's exhibit 4-S. I have examined it carefully and the script notations and figures in the plat-book, wherever they occur, are in my father's handwriting. During his lifetime, my father kept this book with him in a little handbag that he carried when he traveled wherever he went. After my father's death, I found it in his handbag. Sometime this spring, Mr. E. T. Dumble made an examination of the papers that have been offered in evidence here. I think I placed all my father's papers before Mr. Dumble and he examined all that he wanted to. I also exhibited these papers to Mr. Bennett and Mr. Crawford. All these gentlemen examined these papers in my presence and they have never, to my knowledge, been seen by anyone else. During my father's lifetime I was entirely in his confidence. I have discussed with him various fields and also prospective fields in Kern County and around Coalinga and other fields in the state concerning their mineral bearing character. Very frequently during the last few years of his life we talked the matter over. We seriously contemplated the organization of a little company

where we could use my energy and his knowledge and acquire some of the various lands in the state. To a certain extent, I have heard my father pass upon the mineral bearing character of the lands in controversy in this suit in Township 30 South, Range 23 East. Our discussions were principally with regard to other minerals; but I have heard him state as to the oil bearing possibilities of these lands. He thought it was a good gamble; and that there was a chance of oil being there, but that it was deep. My father owned stock in a company owning or claiming the lands in the adjoining township, to wit: Township 30 South, Range 24 East, and he frequently expressed an opinion to me as to the presence of mineral on those lands. He was absolutely certain that Township 30 South, 24 East, and [1299] 30 South, 23 East, contained large bodies of Fuller's Earth that were valuable; in fact, he had no doubt about it. He was certain on that point—that there was a great body of Fuller's Earth through the Elk Hills. By the Elk Hills I mean that group of hills beginning about six miles east of McKittrick and extending to the Buena Vista Lake and including the land in controversy in this suit. At the time of my father's death he had in his possession passes over the Southern Pacific lines and over the lines reaching to the west side and, I think, a pass over the Santa Fe. I sent these passes back to the companies after my father's death. There was quite a stack of them. There might have been half a dozen or more; there might have been a dozen.

Mr. McCormick—You don't deny, do you, that Jo-

siah Owen was the assistant geologist of the Southern Pacific Company, under Mr. Dumble.

Mr. Lewers—"Southern Pacific"; yes. I never have.

Mr. Mills—Do you deny that he was reporting on lands for the Southern Pacific Railroad Company?

Mr. Lewers—I most emphatically do, because he was not.

Mr. Mills—Do you admit at this time that Mr. Dumble was consulting geologist of the Southern Pacific Company?

Mr. Lewers—Of the Southern Pacific Company, yes.

Mr. Mills—Was he at any time employed by the Southern Pacific Railroad Company?

Mr. Lewers—Not to my knowledge.

Mr. Mills—You don't deny that he might have, without your knowledge?

Mr. Lewers—Oh, he might have been, but—

Mr. Mills—And the same is true with reference to Mr. Owen.

Mr. Lewers—I believe that is the fact. They were employed in the geologist department of the Southern Pacific Company, [1300] a separate and distinct office in every way from the Southern Pacific Railroad Company.

Mr. Mills—And yet they would report to the Southern Pacific Railroad Company?

Mr. Lewers—Never, to my knowledge.

Mr. Mills—In the report to Mr. Kruttschnitt.

Mr. Lewers—If they reported to him he was, as I understand it, an officer of the Southern Pacific Company.

Mr. Mills—He was second vice-president of the Southern Pacific Railroad Company, too, wasn't he?

Mr. Lewers—That may have been. That is all in the record, whatever that may show.

Mr. McCormick—So far as the Southern Pacific Company is concerned, you will stipulate, as matter of record, that Mr. Dumble, from January 1st, 1903, at least until after the patent in this case was issued, was the consulting geologist of the Southern Pacific Company?

Mr. Lewers—I would not want to make that stipulation, because I don't know the dates, Mr. McCormick; but I know that he held that position. When he began I don't know. He holds that position today.

This book, in which pages 44 and 45 are marked plaintiff's exhibits 4-Sa and -Sb, is the one my father carried with him. I first saw the book in January, 1909, and my father died in December, 1909. Whenever my father came out to the fields he stopped at my house and I don't remember his ever being there without the book, as I have seen it on different occasions. I do not know when pages 44 and 45, or any portions of those pages, were made by my father. The blue parts of that map, Section 30, 32-4, and the north half of Section 31, in Township 31 South and 32 south, Range 23 East, represent locations made by the locators of the original Eight Oil Company. I think these locations were made January 1,

1907, if I am not mistaken, but not prior to that [1301] date. The map also represents locations that were made subsequent to 1904, being on Section 28, Township 32 South, Range 24 East, and it is differently colored from the others, being purple and being surrounded by markings of ink. That represented a desert land location made by S. P. Wible and C. F. Haberkern, Father helped to make those locations and was interested in them. That was in March, 1907. I don't know whether he made any additions to that map from time to time except what I have testified to with reference to later locations. There is nothing on the map that indicates the dates when he made any of those marks on that plat, and I am not able to state when any portion of that map was made other than from the evidence that the map furnishes on its face. Section 28, Township 32 South, Range 24 East, which is marked purple, was not purchased for oil land, but it is oil land now. There was a contest, as a matter of fact, made against the desert land entry on the ground that this land was oil land, and subsequently Mr. Wible and Mr. Haberkern and my father voluntarily relinquished their claim that it was a desert land entry. I know now that that was oil land. Referring to exhibit 4-H, which is the letter addressed to my father by Mr. Dumble, dated December 11, 1902,—on the visit that Mr. Dumble made to me shortly after the hearing in this case started, he made comment on that letter. He picked up the letter, read the whole of it through, that is, he

looked at exhibits 4-H, 4-H-1 and 4-H-2, folded them up, threw them aside and said, "That about fixes the date of your father's arrival"—I won't say in the oil fields," but "in the country." Mr. Dumble at that time did not expressly or impliedly deny the authenticity of these documents and I know he examined all of the papers that were introduced today. I came to California in January, 1909, and that is the reason I never examined this book until January, 1909.

Mr. Mills—We also desire to offer in evidence from this [1302] book, near the end of the book, a page headed, "Oil City, Oil Horizon," dated "October 15, 1904", and the following three pages and a half—three pages and a quarter. Also, on the third page from the end of the book, the matter headed, "El Capitan, Genesee & Trouger Lease G 20, May 4th, 1904", and the subsequent pages, and, also, the inside, first cover—whatever matter appears there—and the page directly opposite, at the present time.

Mr. Lewers—No objection.

Mr. Mills—The portions of the plat-book referred to and offered in evidence are as follows: That portion marked "4 Sc", is as follows:

"Oct 15th—04

Oil City Oil Horizon

The oil at this place appears to be at the Base of the Miocene or Eocene in a Bituminous shale with sand strata at the bottom There appears to

be about 600 ft of Bit. shale overlaid by something like 800 ft of sandy clays and sandy strata this lies below the Monterey Shales of the miocene Below the low bit shales in fact 450 ft from the Base is found about 20 ft of Red Brown sand below this is 450 ft shale below this shale below this shale is 75 ft of Brown Sand underlaid by 50 ft Sandy clay under this is 100 ft of Boulder Sand resting upon 1000 ft of clay beds containing Ammonites and Bacalites certainly Cretaceous (*following* Following the Bituminous clays the lowest sec of the Shales from Oil City on the west line of Sec 20 they extend to near the center of this Sec 20 R 29 T 15 E from this point they turn North through the center of Sec 17 also through Sec 8 to near the South line of Sec 5 from here they turn nearly N. W. through Sec 5 and enter the next Town [1303]

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( cut out )  
 ( Near the S W Corner of Sec 34 runs diag- )  
 ( onally through Sec 33 to near N W corner )  
 ( thence through the S W  $\frac{1}{4}$  of Sec 28 and )  
 ( diagonally through the N E  $\frac{1}{4}$  of Sec 29 and )  
 ( through the S W  $\frac{1}{4}$  of Sec 20 thence through )  
 ( the N E  $\frac{1}{4}$  of Sec 19 )

---

Near the S E corner of Sec 31—Town 18 S R 15 E thence diagonally through Sec 31 N W and enters Sec 25 T 18 S R 13 E near the S E corner and runs Northwest through Sec 25 enters Sec 23 near S E corner enters Sec 22 about the middle of

the N E  $\frac{1}{4}$  of Sec and enters Sec 15 about the S W corner of the S E  $\frac{1}{4}$  and continues as far as I could see in a N W direction Sec 15 was as far as I followed the Horizon It appears to be very regular in its thickness and appears to follow the same Nodular sand stone found at Oil City It is Bituminous through out its entire distance The Average dip is about  $35^{\circ}$  and it ought to be oil bearing

The Horizon of the Sec 28 Oil Co runs through Sec 29 T 19 S R 15 E near center of Sec thence across the N W corner of Sec 28 enters Sec 21 near the SW corner and runs diagonally through the E  $\frac{1}{2}$  of the Sec enters Sec 15 near S W corner runs N.E. to near center of S East  $\frac{1}{4}$  and runs N. W. enters Sec 3 near corner of S E  $\frac{1}{4}$  and runs diagonally across to S West corner. Sec 33 T 18 S R 15 E near S E corner and enters Sec 28 near middle of S W  $\frac{1}{4}$  enters Sec 29 near S E corner of N E  $\frac{1}{4}$  and runs (in pencil) diagonally across Sec 20 to N W corner of S W  $\frac{1}{4}$  and diagonally through the N E  $\frac{1}{4}$  of Sec 19 enters Sec 13 T. 18 S. R 13 E from this point it trends more to the North and on Sec 19 a massive Stratum of Tale and Serpentine boulders and gravel takes the position previously occupied by the Oil Sands and either cutting the oil sand out or thorwing it further north This Oil [1304] horizon is W of Sec 3 T 19 R 15 Shows but little indication of oil and I doubt if it will pay for development work although a company is drilling a well on Sec 20 Town 18 R 15 E There has been well located about

600 ft North of the Oyster Horizon which at Oil City is 450 ft above the Oil Horizon."

The part marked 4 Sd is as follows:

"May 4th 04 El Capitan Genessee & Producers  
Lease G 20

Producers Oil Co Wells never operated. Lease forfeited by non compliance with Terms

No record of any sub Lease to Genessee Co Six wells were required prior to Nov 26 1903

Lease G 22 Should complete six wells by Dec 7th 1903 Time to complete first two wells extended to May 28th 1903 this extended time to May 28th 1904 Commercial Oil Co Lease G 23 St Paul Fresno Co Probably forfeited for failure to operate leases 4 wells sunk within time required Contract provided 3 wells each year and if oil is found 3 additional wells shall be sunk each year consent if Co to sub lease was obtained consent of arrangement will probably reinstate the lease as being complied with

Lease G 45

Me Near

Six wells should have been completed by Jan 19 1904 only one completed to date No record of any extension of time for drilling other wells Time extended by Mr. Madden until Aug 15 1903 Time to sink first two wells expires May 15 1904 and time to commence subsequent work commences to run May 15th 1904 Nine months after contract time to commence work. (In pencil) Oil sepages on Sec 5 T 17 (blue pencil) [1305] R 12 Just below North New Idra mines."

And the part marked "4 Se", are as follows:

"60.30 American (erasure) J. Owen Los Gatos  
Cal. J Owen Room 1105 Flood Bldg S F  
San Francisco  
518 Merchants Exchange Building  
S F"

[1306]

CROSS-EXAMINATION  
OF ERWIN W. OWEN

I came to California in January, 1909, and it was after this time that I had these conversations with my father concerning the oil fields. It was also after this time that he expressed the belief that there was a great deal of Fuller's earth in the Elk Hills and stated that it was a gamble as to the oil, and that if it was there it would be very deep.

I had an interest in the Eight Oil Company, just as my father did, and discussed with him the proposed holdings of this company. During such discussion he frequently referred to the note book, which has been introduced in evidence, Exhibit 4 S, I have known him to refer to the plat appearing on pages 44 and 45 of this book, for the purpose of obtaining information for me, but I do not remember having seen him make any entries on that map. He never did tell me that it was a map he had prepared years before.

It was my opinion that he had prepared that map and the other papers in there, during the course of some time; that he had just built that up. I don't think that he had made the map at one time, but

he had, during his examinations, made that map for his own information. If he got any additional information later on he would add it to the map. This continued up to the time of his death.

There are some things on this plat that indicate that they must have been made subsequent to certain dates.

The blue parts of that map, Sections 30, 32-4, and the north half of Section 31, in Township 31 and 32 South, Range 23 East, represent locations made by the locators of the original Eight Oil Company. These were made January 1, 1907, if I am not mistaken, but they were not made prior to that date. It also appears on this map that Section 28, Township 32 South, Range 24 [1307] East is differently colored from the others. It is purple and is surrounded by markings of ink. That represents a desert land location made by S. P. Wible and C. F. Haberkern, in which my father was interested. This location was made in March, 1907.

My recollection is that my father carried this book with him whenever he went into the field. There is nothing in this book or on the map that indicates the dates when any of the marks or notations were made on the map.

I find further than in other portions of the book there are notations and plats referring to purely private matters. [1308]

#### LOCATION NOTICES

Mr. Mills—I find, Mr. Lewers, that the record of

mining location notices, as recorded in the office of the County Recorder for Kern County, California, for the years 1899 to 1906, inclusive, are indexed only by reference to the locators or the associations or persons in whose behalf said locations are made, and have therefore requested the Kern County Abstract Company of Bakersfield, California, to prepare from said records and submit for use in this case a memorandum of abstract of said notices, during the said [1309] years, from the county books and records of said county in the office of the county recorder thereof, covering each of the following sections of land, to wit: Section 14 to 36, inclusive, in Township 30 South, Range 23 East, M. D. M., and including the lands involved in suit. I am informed that these memoranda have been carefully compared and checked with the original county records of said county of Kern as appears from the books of the county recorder, and that they are true, compared, correct, exact copies of so much of said records as they purport to represent. May it, therefore, be stipulated that the memoranda of abstracts of notices of mining locations for the said descriptions of lands during the said years be received in evidence in this case and read into the record with the like force and same effect as if the county records of the Recorder's Office of the county of Kern themselves were produced and testified from under the oath of the County Recorder of Kern county?

Mr. Lewers—That stipulation is agreeable to us; and, in agreeing to it, we desire to be understood as not offering any objection to the form of the evi-

dence as offered, and we are willing to waive the testimony of the abstractor who prepared the reports which have been referred to, and also to waive the testimony of the County Recorder showing that such records appear upon his books. We do not desire, however, to be understood as admitting in any way that any such locations were actually made, or as waiving any objections that we now propose to make to the introduction of the evidence, these objections being considered as made to the original records themselves as evidence in the case, subject [1310] to the form in which they are now offered. Now, do you offer those in evidence?

Mr. Mills—Yes. I now offer in evidence the mining location notices for sections 14 to 36, inclusive, excepting Section 31, of Township 30 South, Range 23 East, M. D. M, including the lands in suit, as appear from the records of the office of the County Recorder of Kern county, for the years 1899 to 1906, inclusive, for the purpose of showing that constructive notice was given to the defendants in this case as early as 1899, and during the entire period before the issuance of the patent, of the mineral character of the lands involved in this suit, and that at all times during those years the said notices were on record in the proper and appropriate public depository of Kern County, California, and accessible at all times to the defendants.

Mr. Lewers—We object to the introduction of the testimony offered, and to each item thereof, on the ground that is purely hearsay; refers to transactions

in which none of the defendants were in any concerned, that the statements contained in the alleged records are purely self serving declarations, made for the benefit of persons other than the defendants; and on the further ground that at the time said alleged records were made there was no statute or law, federal or state, requiring that any location notice be either posted on the ground or recorded in any office; there was no statute or law of any kind making the contents of any such notice that may have been recorded evidence for any purpose in any court; and on the further ground that the fact that the records of Kern county may [1311] have set forth in them what purports to be location notices is in no way evidence of any act or thing done upon the ground, or any part of it, inasmuch as the said records were neither authorized nor sanctioned nor required by any law during the time the same purport to have been made. And we do now, for all the reasons herein before stated in this objection, move to strike from the record all of said alleged records; and we make this objection and motion upon the further ground that in the form and manner in which the said testimony is offered, consisting of entries in the books of the county recorded merely, we have been deprived of all opportunity to enquire or cross-examine as to whether, in any instance referred to in said alleged records, any location or discovery or act was done by any individual upon the ground in question.

Mr. Mills—I will now read into the record the mat-

ters last referred to and offered in evidence, as follows: [1312]

### MEMORANDUM ABSTRACT

of all Notices of Location of Mining Claims recorded in the office of the County Recorder of the County of Kern, State of California, during the years 1899 to 1906, both years inclusive, affecting or in any way relating to Section 14, in Township 30 South, Range 23 East, Mount Diablo Base and Meridian, in the County of Kern, State of California.

Notice of Location    Date    Recorded—Mining Records  
Book Page

Pelican Oil Co. No. 25 SE $\frac{1}{4}$

Nov. 9, 1899.    Nov. 18, 1899.    18    24

Pelican Oil Co. No. 26 SW $\frac{1}{4}$

Nov. 9, 1899.    Nov. 18, 1899.    18    24

Rajah No. 83 NW $\frac{1}{4}$

Dec. 14, 1899.    Dec. 15, 1899.    18    296

Rajah No. 84 NE $\frac{1}{4}$

Dec. 14, 1899.    Dec. 15, 1899.    18    296

Wagont No. 14 NE $\frac{1}{4}$

Jan. 1, 1901.    Jan. 2, 1901.    30    7

Wagont No. 15 NW $\frac{1}{4}$

Jan. 1, 1901.    Jan. 2, 1901.    30    8

Wagont No. — SW $\frac{1}{4}$

Jan. 1, 1901.    Jan. 2, 1901.    30    8

Wagont No. 17 SE $\frac{1}{4}$

Jan. 1, 1901.    Jan. 2, 1901.    30    9

St. Joseph SW $\frac{1}{4}$

Jan. 24, 1901.    Jan. 28, 1901.    27    370

Vista Laguna No. 19 NE $\frac{1}{4}$			
Feb. 16, 1903.	Mar. 6, 1903.	46	482
Vista Laguna No. 20 NW $\frac{1}{4}$			
Feb. 16, 1903.	Mar. 6, 1903.	46	483
Vista Laguna No. 21 SW $\frac{1}{4}$			
Feb. 16, 1903.	Mar. 6, 1903.	46	484
Vista Laguna No. 22 SE $\frac{1}{4}$			
Feb. 16, 1903.	Mar. 6, 1903.	46	485
Elks Range No. 5 NE $\frac{1}{4}$			
Jan. 1, 1905.	Jan. 7, 1905.	54	405
Elks Range No. 6 NW $\frac{1}{4}$			
Jan. 1, 1905.	Jan. 7, 1905.	54	406
Elks Range No. 7 SW $\frac{1}{4}$			
Jan. 1, 1905.	Jan. 7, 1905.	54	407
Elks Range No. 8 SE $\frac{1}{4}$			
Jan. 1, 1905.	Jan. 7, 1905.	54	408
[1313]			

# MEMORANDUM ABSTRACT

of all Notices of Location of Mining Claims recorded in the office of the County Recorder of the County of Kern, State of California, during the years 1899 to 1906, both years inclusive, affecting or in any way relating to Section 15, in Township 30 South, Range 23 East, Mount Diablo Base and Meridian, in the County of Kern, State of California.

Notice of Location	Date	Recorded—Mining Records	Book	Page
Blue Hills Oil Co. No. 1 SE $\frac{1}{4}$				
	Dec. 2, 1899	18	148	
Blue Hills Oil Co. No. 5 SW $\frac{1}{4}$				
	Dec. 2, 1899	18	149	

1654      *The Southern Pacific Co. et al. vs.*

Blue Hills Oil Co. No. 7 NW $\frac{1}{4}$	Dec. 2, 1899	18	150
Bule Hills Oil Co. No. 8 NE $\frac{1}{4}$	Dec. 2, 1899	18	151
Wagont No. 18 NE $\frac{1}{4}$	Jan. 2, 1901	30	9
Wagont No. 19 NW $\frac{1}{4}$	Jan. 1, 1901	Jan. 2, 1901	30 10
Wagont No. 20 SW $\frac{1}{4}$	Jan. 1, 1901	Jan. 2, 1901	30 10
Wagont No. 21 SE $\frac{1}{4}$	Jan. 1, 1901	Jan. 2, 1901	30 11
Santa Cruz SE $\frac{1}{4}$	Jan. 24, 1901	Jan. 26, 1901	25 473
Georgia NE $\frac{1}{4}$	Jan. 23, 1901	Jan. 26, 1901	25 474
Eldorado NW $\frac{1}{4}$	Jan. 23, 1901	Jan. 26, 1901	33 129
Golden West SW $\frac{1}{4}$	Jan. 23, 1901	Jan. 26, 1901	33 131
Vista Laguna No. 15 NE $\frac{1}{4}$	Feb. 16, 1903	Mar. 6, 1903	46 478
Vista Laguna No. 16 NW $\frac{1}{4}$	Feb. 16, 1903	Mar. 6, 1903	46 479
Vista Laguna No. 17 SW $\frac{1}{4}$	Feb. 16, 1903	Mar. 6, 1903	46 480
Vista Laguna No. 18 SE $\frac{1}{4}$	Feb. 16, 1903	Mar. 6, 1903	46 481
Potasi No. 2 NW $\frac{1}{4}$	Jan. 1, 1903	Apr. 20, 1903	31 464
[1314]			

Notice of Location    Date    Recorded—Mining Records  
Book PagePotasi No. 3 SE $\frac{1}{4}$ 

Jan. 1, 1903    Apr. 20, 1903    31    464

Potasi No. 1 NE $\frac{1}{4}$ 

Jan. 1, 1903    Apr. 20, 1903    31    465

Potasi No. 4 SW $\frac{1}{4}$ 

Jan. 1, 1903    Apr. 20, 1903    31    465

Elks Range No. 9 NE $\frac{1}{4}$ 

Jan. 1, 1903    54    408

Elks Range No. 10 NW $\frac{1}{4}$ 

Jan. 1, 1903    Jan. 7, 1905    54    409

Elks Range No. 11 SW $\frac{1}{4}$ 

Jan. 1, 1905    Jan. 7, 1905    54    410

Elks Range No. 12 SE $\frac{1}{4}$ 

Jan. 1, 1905    Jan. 7, 1905    54    411

## MEMORANDUM    ABSTRACT

of all Notices of Location of Mining Claims recorded in the office of the County Recorder of the County of Kern, State of California, during the years 1899 to 1906, both years inclusive, affecting or in any way relating to Section 16, in Township 30 South, Range 23 East, Mount Diablo Base and Meridian, in the County of Kern, State of California.

Notice of Location    Date    Recorded—Mining Records  
Book PageRajah No. 85 NW $\frac{1}{4}$ 

Dec. 14, 1899    Dec. 15, 1899    18    297

Rajah No. 86 NE $\frac{1}{4}$ 

Dec. 14, 1899    Dec. 15, 1899    18    298

1656      *The Southern Pacific Co. et al. vs.*

Rajah No. 87 SW $\frac{1}{4}$

Dec. 14, 1899    Dec. 15, 1899    18    298

Rajah No. 88 SE $\frac{1}{4}$

Dec. 14, 1899    Dec. 15, 1899    18    299

[1315]

Notice of Location    Date    Recorded—Mining Records  
Book Page

Wagont No. 22 NE $\frac{1}{4}$

Jan. 1, 1901    Jan. 2, 1901    30    11

Wagont No. 23 NW $\frac{1}{4}$

Jan. 1, 1901    Jan. 2, 1901    30    12

Wagont No. 24 SW $\frac{1}{4}$

Jan. 1, 1901    Jan. 2, 1901    30    13

Wagont No. 25 SE $\frac{1}{4}$

Jan. 1, 1901    Jan. 2, 1901    30    13

New York SW $\frac{1}{4}$

Dec. 22, 1900    Jan. 7, 1901    26    271

NW $\frac{1}{4}$     Dec. 24, 1900    Jan. 7, 1901    27    155

Gladstone NE $\frac{1}{4}$

Jan. 23, 1901    Jan. 26, 1901    33    130

Eldorado SE $\frac{1}{4}$

Jan. 23, 1901    Jan. 26, 1901    33    132

Vista Laguna No. 23 NE $\frac{1}{4}$

Feb. 17, 1903    Mar. 6, 1903    46    486

Vista Laguna No. 24 NW $\frac{1}{4}$

Feb. 17, 1903    Mar. 6, 1903    46    487

Vista Laguna No. 25 SW $\frac{1}{4}$

Feb. 17, 1903    Mar. 6, 1903    46    488

Vista Laguna No. 26 SE $\frac{1}{4}$

Feb. 17, 1903    Mar. 6, 1903    46    489

Elks Range No. 13 NE $\frac{1}{4}$

Jan. 1, 1905    Jan. 7, 1905    54    411

Elks Range No. 14 NW $\frac{1}{4}$				
	Jan. 1, 1905	Jan. 7, 1905	54	412
Elks Range No. 15 SW $\frac{1}{4}$				
	Jan. 1, 1905	Jan. 7, 1905	54	413
Elks Range No. 16 SE $\frac{1}{4}$				
	Jan. 1, 1905	Jan. 7, 1905	54	414

# MEMORANDUM ABSTRACT

of all Notices of Location of Mining Claims recorded in the office of the County Recorder of the County of Kern, State of California, during the years 1899 to 1906, both years inclusive, affecting or in any way relating to Section 17, in Township 30 South, Range 23 East, Mount Diablo Base and Meridian, in the County of Kern, State of California. [1316]

Notice of Location	Date	Recorded—Mining Records	Book	Page
Rajah No. 124 NW $\frac{1}{4}$	Dec. 16, 1899		18	329
Rajah No. 125 SW $\frac{1}{4}$	Dec. 16, 1899		18	329
Rajah No. 126 NE $\frac{1}{4}$	Dec. 16, 1899		18	330
Rajah No. 127 SE $\frac{1}{4}$	Dec. 16, 1899		18	330
Wagont No. 26 NE $\frac{1}{4}$	Jan. 2, 1901		30	13
Wagont No. 27 NW $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 2, 1901	30	14
Wagont No. 28 SW $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 2, 1901	30	14
Wagont No. 29 SE $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 2, 1901	30	15
St. Louis SE $\frac{1}{4}$				
	Dec. 22, 1900	Jan. 7, 1901	26	270
NW $\frac{1}{4}$	Dec. 24, 1900	Jan. 7, 1901	27	156
NE $\frac{1}{4}$	Dec. 24, 1900	Jan. 7, 1901	27	156

Tacoma SW $\frac{1}{4}$ 

Dec. 22, 1900    Jan. 10, 1901    26    348

Lark NW $\frac{1}{4}$     Jan. 1, 1902    Jan. 4, 1902    41    45Nightengale NE $\frac{1}{4}$ 

Jan. 1, 1902    Jan. 4, 1902    41    46

Black Bird SE $\frac{1}{4}$ 

Jan. 1, 1902    Jan. 4, 1902    41    47

## MEMORANDUM    ABSTRACT

of all Notices of Location of Mining Claims recorded in the office of the County Recorder of the County of Kern, State of California, during the years 1899 to 1906, both years inclusive, affecting or in any way relating to Section 18, in Township 30 South, Range 23 East, Mount Diablo Base and Meridian, in the County of Kern, State of California.      [1317]

Notice of Location    Date    Recorded—Mining Records  
Book Page

Rajah No. 128 NW $\frac{1}{4}$ 

Dec. 14, 1899    Dec. 16, 1899    18    331

Rajah No. 129 NE $\frac{1}{4}$ 

Dec. 14, 1899    Dec. 16, 1899    18    332

Rajah No. 130 SW $\frac{1}{4}$ 

Dec. 14, 1899    Dec. 16, 1899    18    332

Rajah No. 131 SE $\frac{1}{4}$ 

Dec. 14, 1899    Dec. 16, 1899    18    333

Wagont No. 30 NE $\frac{1}{4}$ 

Jan. 1, 1901    Jan. 2, 1901    30    15

Wagont No. 31 NW $\frac{1}{4}$ 

Jan. 1, 1901    Jan. 2, 1901    30    16

Wagont No. 32 SW $\frac{1}{4}$ 

Jan. 1, 1901    Jan. 2, 1901    30    16

Wagont No. 33 SE $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 2, 1901	30	17
Big Thunder NE $\frac{1}{4}$		Jan. 10, 1901	26	346
Washington SE $\frac{1}{4}$				
	Dec. 22, 1900	Jan. 10, 1901	26	349
Ida No. 1 NW $\frac{1}{4}$				
	Jan. 19, 1901	Jan. 22, 1901	27	306
Ida No. 4 SW $\frac{1}{4}$				
	Jan. 19, 1901	Jan. 22, 1901	27	307
Ida No. 3 SE $\frac{1}{4}$				
	Jan. 19, 1901	Jan. 22, 1901	27	308
Ida No. 2 NE $\frac{1}{4}$				
	Jan. 19, 1901	Jan. 22, 1901	27	309
				[1318]

# MEMORANDUM ABSTRACT

of all Notices of Location of Mining Claims recorded in the office of the County Recorder of the County of Kern, State of California, during the years 1899 to 1906, both years inclusive, affecting or in any way relating to Section 19, in Township 30 South, Range 23 East, Mount Diablo Base and Meridian, in the County of Kern, State of California.

Notice of Location	Date	Recorded—Mining Records	Book	Page
Rajah No. 132 NW $\frac{1}{4}$				
	Dec. 14, 1899	Dec. 16, 1899	18	333
Rajah No. 133 NE $\frac{1}{4}$				
	Dec. 14, 1899	Dec. 16, 1899	18	334
Rajah No. 134 SW $\frac{1}{4}$				
	Dec. 14, 1899	Dec. 16, 1899	18	335

1660      *The Southern Pacific Co. et al. vs.*

Rajah No. 135 SE $\frac{1}{4}$	Dec. 14, 1899	Dec. 16, 1899	18	335
Maryland SW $\frac{1}{4}$	Dec. 22, 1900	Dec. 29, 1900	24	312
Wagont No. 34 NE $\frac{1}{4}$	Jan. 1, 1901	Jan. 2, 1901	30	17
Wagont No. 35 NW $\frac{1}{4}$	Jan. 1, 1901	Jan. 2, 1901	30	18
Wagont No. 36 SW $\frac{1}{4}$	Jan. 1, 1901	Jan. 2, 1901	30	18
Wagont No. 37 SE $\frac{1}{4}$	Jan. 1, 1901	Jan. 2, 1901	30	19
White Cloud No. 10 SW $\frac{1}{4}$	Jan. 1, 1901	Jan. 3, 1901	25	182
White Cloud No. 9 SE $\frac{1}{4}$	Jan. 1, 1901	Jan. 3, 1901	25	183
Virginia NW $\frac{1}{4}$	Dec. 22, 1900	Jan. 7, 1901	26	255
Seattle NE $\frac{1}{4}$	Dec. 22, 1900	Jan. 10, 1901	26	343
San Diego SE $\frac{1}{4}$	Dec. 20, 1900	Jan. 10, 1901	26	350
1903 Oil Claim No. 3 SW $\frac{1}{4}$	Jan. 1, 1903	Jan. 9, 1903	46	119
[1319]				

MEMORANDUM ABSTRACT

of all Notices of Location of Mining Claims recorded in the office of the County Recorder of the County of Kern, State of California, during the years 1899 to 1906, both years inclusive, affecting or in any way relating to Section 20, in Township 30 South, Range

23 East, Mount Diablo Base and Meridian, in the County of Kern, State of California.

Notice of Location    Date    Recorded—Mining Records  
Book Page

Pelican Oil Co. No. 20 SW $\frac{1}{4}$

Nov. 8, 1899    Nov. 18, 1899    18    22

Rajah No. 137 NE $\frac{1}{4}$

Dec. 14, 1899    Dec. 16, 1899    18    336

Rajah No. 136 NW $\frac{1}{4}$

Dec. 14, 1899    Dec. 16, 1899    18    336

Rajah No. 138 SW $\frac{1}{4}$

Dec. 14, 1899    Dec. 16, 1899    18    337

Rajah No. 139 SE $\frac{1}{4}$

Dec. 14, 1899    Dec. 16, 1899    18    338

Weasel SW $\frac{1}{4}$

Dec. 18, 1899    Dec. 19, 1899    18    397

Wagont No. 38 NE $\frac{1}{4}$

Jan. 1, 1901    Jan. 2, 1901    30    19

Wagont No. 40 SW $\frac{1}{4}$

Jan. 1, 1901    Jan. 2, 1901    30    20

Wagont No. 39 NW $\frac{1}{4}$

Jan. 1, 1901    Jan. 2, 1901    30    20

Wagont No. 41 SE $\frac{1}{4}$

Jan. 1, 1901    Jan. 2, 1901    30    21

White Cloud No. 8 SW $\frac{1}{4}$

Jan. 1, 1901    Jan. 3, 1901    27    121

Pasadena SW $\frac{1}{4}$

Dec. 20, 1900    Jan. 7, 1901    26    258

Creasinger SE $\frac{1}{4}$

Dec. 20, 1900    Jan. 7, 1901    26    269

1662      *The Southern Pacific Co. et al. vs.*

Pennsyvalnia NE $\frac{1}{4}$

Dec. 22, 1900    Jan. 7, 1901    26    272

Omaha NW $\frac{1}{4}$

Dec. 22, 1900    Jan. 10, 1901    26    342

Blue Jay SE $\frac{1}{4}$

Jan. 1, 1902    Jan. 4, 1902    41    49

[1320]

Notice of Location    Date    Recorded—Mining Records  
Book Page

Robin NE $\frac{1}{4}$

Jan 1, 1902    Jan. 4, 1902    41    50

1901 Oil Claim No. 4 SW $\frac{1}{4}$

Jan. 2, 1903    Jan. 9, 1903    46    120

Vista Laguna No. 7 NE $\frac{1}{4}$

Feb. 14, 1903    Mar. 6, 1903    46    474

Vista Laguna No. 8 NW $\frac{1}{4}$

Feb. 14, 1903    Mar. 6, 1903    46    475

Vista Laguna No. 9 SW $\frac{1}{4}$

Feb. 14, 1903    Mar. 6, 1903    46    476

Vista Laguna No. 10 SE $\frac{1}{4}$

Feb. 14, 1903    Mar. 6, 1903    46    477

Elks Range No. 17 NE $\frac{1}{4}$

Jan. 1, 1905    Jan. 7, 1905    54    414

Elks Range No. 18 NW $\frac{1}{4}$

Jan. 1, 1905    Jan. 7, 1805    54    415

Elks Range No. 19 SW $\frac{1}{4}$

Jan. 1, 1905    Jan. 7, 1905    54    416

Elks Range No. 20 SE $\frac{1}{4}$

Jan. 1, 1905    Jan. 7, 1905    54    417

MEMORANDUM ABSTRACT

Of all Notices of Location of Mining Claims recorded

in the office of the County Recorder of the County of Kern, State of California, during the years 1899 to 1906, both years inclusive, affecting or in any way relating to Section 21, in Township 30 South, Range 23 East, Mount Diablo Base and Meridian, in the County of Kern, State of California. [1321]

Notice of Location    Date    Recorded—Mining Records  
Book Page

Wagy Oil Co. No. 2 SE $\frac{1}{4}$

Nov. 28, 1899    Dec. 2, 1899    18    154

Wagy Oil Co. No. 1 NE $\frac{1}{4}$

Nov. 28, 1899    Dec. 2, 1899    18    155

Rajah No. 89 NW $\frac{1}{4}$

Dec. 14, 1899    Dec. 15, 1899    18    299

Rajah No. 90 SW $\frac{1}{4}$

Dec. 14, 1899    Dec. 15, 1899    18    300

Big Grey SW $\frac{1}{4}$

Dec. 17, 1899    Dec. 19, 1899    18    399

Wagont No. 42 NE $\frac{1}{4}$

Jan. 1, 1901    Jan. 2, 1901    30    21

Wagont No. 43 NW $\frac{1}{4}$

Jan. 1, 1901    Jan. 2, 1901    30    22

Wagont No. 44 SW $\frac{1}{4}$

Jan. 1, 1901    Jan. 2, 1901    30    22

Wagont No. 45 SE $\frac{1}{4}$

Jan. 1, 1901    Jan. 2, 1901    30    23

Chicago NW $\frac{1}{4}$

Dec. 22, 1900    Jan. 7, 1901    26    273

Monterey SE $\frac{1}{4}$

Jan. 24, 1901    Jan. 26, 1901    25    474

1664      *The Southern Pacific Co. et al. vs.*

Dominguez NE $\frac{1}{4}$	Jan. 24, 1901	Jan. 26, 1901	25	479
Simmons SW $\frac{1}{4}$	Jan. 22, 1901	Jan. 26, 1901	33	129
Blue Bird NW $\frac{1}{4}$	Jan. 1, 1902	Jan. 4, 1902	41	43
X 10 U 8 Oil Co. No. 5E N $\frac{1}{4}$	Feb. 17, 1903	Feb. 21, 1903	46	370
X 10 U 8 Oil Co. No. 6 NW $\frac{1}{4}$	Feb. 17, 1903	Feb. 21, 1903	46	371
X 10 U 8 Oil Co. No. 7 SW $\frac{1}{4}$	Feb. 17, 1903	Feb. 21, 1903	46	373
X 10 U 8 Oil Co. No. 8 SE $\frac{1}{4}$	Feb. 17, 1903	Feb. 21, 1903	46	374
Rlks Range No. 21 NE $\frac{1}{4}$	Jan. 1, 1905	Jan. 7, 1905	54	418
Elks Range No. 22 NW $\frac{1}{4}$	Jan. 1, 1905	Jan. 7, 1905	54	418
Elks Range No. 23 SW $\frac{1}{4}$	Jan. 1, 1905	Jan. 7, 1905	54	419
Elks Range No. 24 SE $\frac{1}{4}$	Jan. 1, 1905	Jan. 7, 1905	54	420

[1322]

MEMORANDUM ABSTRACT

of all Notices of Location of Mining Claims recorded in the office of the County Recorder of the County of Kern, State of California, during the years 1899 to 1906, both years inclusive, affecting or in any way relating to Section 22, in Township 30 South, Range 23 East, Mount Diablo Base and Meridian, in the County of Kern, State of California.

Notice of Location	Date Recorded—Mining Records	Book	Page
Blue Hills Oil Co. No. 2 NE $\frac{1}{4}$			
	Nov. 26, 1899 Dec. 2, 1899	18	148
Blue Hills Oil Co. No. 3 SE $\frac{1}{4}$			
	Nov. 26, 1899 Dec. 2, 1899	18	148
Blue Hills Oil Co. No. 6 NW $\frac{1}{4}$			
	Nov. 26, 1899 Dec. 2, 1899	18	150
Blue Hills Oil Co. No. 9 SW $\frac{1}{4}$			
	Nov. 28, 1899 Dec. 2, 1899	18	151
Wagont No. 46 NE $\frac{1}{4}$			
	Jan. 1, 1901 Jan. 2, 1901	30	23
Wagont No. 47 NW $\frac{1}{4}$			
	Jan. 1, 1901 Jan. 2, 1901	30	24
Wagont No. 48 SW $\frac{1}{4}$			
	Jan. 1, 1901 Jan. 2, 1901	30	24
Wagont No. 49 SE $\frac{1}{4}$			
	Jan. 1, 1901 Jan. 2, 1901	30	25
Belmont SW $\frac{1}{4}$			
	Jan. 24, 1901 Jan. 26, 1901	33	136
Gypsy Queen NE $\frac{1}{4}$			
	Jan. 24, 1901 Jan. 26, 1901	33	137
Kern SE $\frac{1}{4}$			
	Jan. 24, 1901 Jan. 26, 1901	33	138
White Swan NW $\frac{1}{4}$			
	Jan. 24, 1901 Jan. 30, 1901	34	102
Black Bird SE $\frac{1}{4}$			
	Mar. 5, 1901 Mar. 7, 1901	35	20
Rose Bud NE $\frac{1}{4}$			
	Mar. 5, 1901 Mar. 7, 1901	35	21
Lillie Queen NW $\frac{1}{4}$			
	Mar. 5, 1901 Mar. 8, 1901	30	451

1666      *The Southern Pacific Co. et al. vs.*

Flint Lock SW $\frac{1}{4}$

Mar. 5, 1901    Mar. 8, 1901    35    21

Dover No. 1 SW $\frac{1}{4}$

Feb. 11, 1903    Mar. 10, 1903    31    454

[1323]

Notice of Location    Date    Recorded—Mining Records  
Book Page

Dover No. 3 SE $\frac{1}{4}$

Feb. 11, 1903    Mar. 10, 1903    31    455

Dover No. 2 NW $\frac{1}{4}$

Feb. 11, 1903    Mar. 10, 1903    31    455

Dover No. 4 NE $\frac{1}{4}$

Feb. 11, 1903    Mar. 10, 1903    31    456

Malvina No. 4 SW $\frac{1}{4}$

Jan. 1, 1903    Apr. 20, 1903    31    462

Malvina No. 3 SE $\frac{1}{4}$

Jan. 1, 1903    Apr. 20, 1903    31    462

Malvina No. 2 NW $\frac{1}{4}$

Jan. 1, 1903    Apr. 20, 1903    31    463

Malvina NE $\frac{1}{4}$

Jan. 1, 1903    Apr. 20, 1903    31    463

Elks Range No. 1 NE $\frac{1}{4}$

Jan. 1, 1905    Jan. 7, 1905    54    402

Elks Range No. 2 NW $\frac{1}{4}$

Jan. 1, 1905    Jan. 7, 1905    54    403

Elks Range No. 3 SW $\frac{1}{4}$

Jan. 1, 1905    Jan. 7, 1905    54    404

Elks Range No. 4 SE $\frac{1}{4}$

Jan. 1, 1905    Jan. 7, 1905    54    405

MEMORANDUM    ABSTRACT

of all Notices of Location of Mining Claims recorded

in the office of the County Recorder of the County of Kern, State of California, during the years 1899 to 1906, both years inclusive, affecting or in any way relating to Section 23, in Township 30 South, Range 23 East, Mount Diablo Base and Meridian, in the County of Kern, State of California. [1324]

Notice of Location		Date	Recorded—Mining Records	
			Book	Page
Pelican Oil Co. No. 21	SE $\frac{1}{4}$			
	Nov. 8, 1899	Nov. 18, 1899	18	23
Pelican Oil Co. No. 24	NL $\frac{1}{4}$			
	Nov. 9, 1899	Nov. 18, 1899	18	24
Pelican Oil Co. No. 27	NW $\frac{1}{4}$			
	Nov. 9, 1899	Nov. 18, 1899	18	25
Pelican Oil Co. No. 28	SW $\frac{1}{4}$			
	Nov. 9, 1899	Nov. 18, 1899	18	25
Wagont No. 50	NE $\frac{1}{4}$			
	Jan. 1, 1901	Jan. 2, 1901	30	25
Wagont No. 51	NW $\frac{1}{4}$			
	Jan. 1, 1901	Jan. 2, 1901	30	26
Wagont No. 52	SW $\frac{1}{4}$			
	Jan. 1, 1901	Jan. 2, 1901	30	26
Wagont No. 53	SE $\frac{1}{4}$			
	Jan. 1, 1901	Jan. 2, 1901	30	27
Sun Flower	NW $\frac{1}{4}$			
	Jan. 24, 1901	Feb. 9, 1901	27	410
Rubin	SW $\frac{1}{4}$			
	Jan. 24, 1901	Feb. 9, 1901	27	411
Gray Hound	NE $\frac{1}{4}$	Mar. 7, 1901	34	364
Blue Jay	SE $\frac{1}{4}$	Mar. 7, 1901	34	365

1668      *The Southern Pacific Co. et al. vs.*

Blue Gross NE $\frac{1}{4}$	Mar. 5, 1901	Mar. 8, 1901	33	453
Last Chanse SW $\frac{1}{4}$	Mar. 5, 1901	Mar. 8, 1901	33	454
Sultan No. 57 NE $\frac{1}{4}$	Jan. 1, 1903	Jan. 3, 1903	30	140
Sultan No. 55 SE $\frac{1}{4}$	Jan. 1, 1903	Jan. 3, 1903	30	141
Sultan No. 56 SW $\frac{1}{4}$	Jan. 1, 1903	Jan. 3, 1903	30	140
Black Jack No. 2 NW $\frac{1}{4}$	Jan. 1, 1903	Jan. 3, 1903	45	381
[1325]				

### MEMORANDUM ABSTRACT

of all Notices of Location of Mining Claims recorded in the office of the County Recorder of the County of Kern, State of California, during the years 1899 to 1906, both years inclusive, affecting or in any way relating to Section 24, in Township 30 South, Range 23 East, Mount Diablo Base and Meridian, in the County of Kern, State of California.

Notice of Location    Date    Recorded—Mining Records  
Book Page

Pelican Oil Co. No. 17 SE $\frac{1}{4}$	Nov. 8, 1899	Nov. 18, 1899	18	21
Pelican Oil Co. No. 23 NW $\frac{1}{4}$	Nov. 9, 1899	Nov. 18, 1899	18	23
Pelican Oil Co. No. 22 NE $\frac{1}{4}$	Nov. 8, 1899	Nov. 18, 1899	18	23
Black Hawk No. 12 SW $\frac{1}{4}$	Sept. 5, 1900	Sept. 19, 1900	22	493

Wagont No. 54 NE $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 2, 1901	30	27
Wagont No. 54 NW $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 2, 1901	30	28
Wagont No. 56 SW $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 2, 1901	30	28
Wagont No. 57 SE $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 2, 1901	30	29
C. L. Ward No. 1 NE $\frac{1}{4}$				
	Feb. 14, 1901	Feb. 18, 1901	34	256
A. M. Robinson No. 1 SE $\frac{1}{4}$				
	Feb. 14, 1901	Feb. 18, 1901	34	257
T. E. McShane No. 3 NW $\frac{1}{4}$				
	Feb. 14, 1901	Feb. 18, 1901	34	265
T. E. McShane No. 4 SW $\frac{1}{4}$				
	Feb. 14, 1901	Feb. 18, 1901	34	267
Sultan No. 58 NW $\frac{1}{4}$				
	Jan. 1, 1903	Jan. 3, 1903	30	138
Sultan No. 59 NE $\frac{1}{4}$				
	Jan. 1, 1903	Jan. 3, 1903	30	138
Sultan No. 54 SW $\frac{1}{4}$				
	Jan. 1, 1903	Jan. 3, 1903	30	139
Sultan No. 53 SE $\frac{1}{4}$				
	Jan. 1, 1903	Jan. 3, 1903	30	139
[1326]				
Notice of Location	Date	Recorded—Mining Records		
		Book	Page	
Crow No. 1 NE $\frac{1}{4}$				
	Jan. 1, 1903	Jan. 5, 1903	39	81
Dover No. 5 SE $\frac{1}{4}$				
	Jan. 28, 1905	Jan. 30, 1905	55	192

1670      *The Southern Pacific Co. et al. vs.*

Dover No. 6 SW $\frac{1}{4}$

Jan. 28, 1905    Jan. 30, 1905    55    193

Dover No. 7 NE $\frac{1}{4}$

Jan. 28, 1905    Jan. 30, 1905    55    194

Dover No. 8 NW $\frac{1}{4}$

Jan. 28, 1905    Jan. 30, 1905    55    194

MEMORANDUM    ABSTRACT

of all Notices of Location of Mining Claims recorded in the office of the County Recorder of the County of Kern, State of California, during the years 1899 to 1906, both years inclusive, affecting or in any way relating to Section 25, in Township 30 South, Range 23 East, Mount Diablo Base and Meridian, in the County of Kern, State of California.

Notice of Location    Date    Recorded—Mining Records  
Book Page

Pelican Oil Co. No. 16 NE $\frac{1}{4}$

Nov. 8, 1899    Nov. 18, 1899    18    21

Pelican Oil Co. No. 18 NW $\frac{1}{4}$

Nov. 8, 1899    Nov. 18, 1899    18    21

Rajah No. 99 SW $\frac{1}{4}$

Dec. 14, 1899    Dec. 15, 1899    18    305

Rajah No. 100 SE $\frac{1}{4}$

Dec. 14, 1899    Dec. 15, 1899    18    306

Rustler No. 13 SE $\frac{1}{4}$

Dec. 20, 1899    Jan. 13, 1900    18    430

Wagont No. 58 NE $\frac{1}{4}$

Jan. 1, 1901    Jan. 2, 1901    30    29

Wagont No. 59 NW $\frac{1}{4}$

Jan. 1, 1901    Jan. 2, 1901    30    30

[1327]

Notice of Location	Date	Recorded—Mining Records	Book	Page
Wagont No. 60 SW $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 2, 1901	30	30
Wagont No. 61 SE $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 2, 1901	30	31
Sultan No. 51 NW $\frac{1}{4}$				
	Jan. 1, 1903	Jan. 3, 1903	30	136
Sultan No. 52 NE $\frac{1}{4}$				
	Jan. 1, 1903	Jan. 3, 1903	30	136
Sultan No. 47 SE $\frac{1}{4}$				
	Jan. 1, 1903	Jan. 3, 1903	30	137
Sultan No. 48 SW $\frac{1}{4}$				
	Jan. 1, 1903	Jan. 3, 1903	30	137
Crow No. 6 NW $\frac{1}{4}$				
	Jan. 1, 1903	Jan. 5, 1903	39	82
Crow No. 8 SE $\frac{1}{4}$				
	Jan. 1, 1903	Jan. 5, 1903	39	84
Crow No. 5 NE $\frac{1}{4}$				
	Jan. 1, 1903	Jan. 5, 1903	39	85
Crow No. 7 SW $\frac{1}{4}$				
	Jan. 1, 1903	Jan. 5, 1903	39	85
Dover No. 1 NE $\frac{1}{4}$				
	Jan. 28, 1905	Jan. 30, 1905	55	190
Dover No. 2 NW $\frac{1}{4}$				
	Jan. 28, 1905	Jan. 30, 1905	55	190
Dover No. 3 SE $\frac{1}{4}$				
	Jan. 28, 1905	Jan. 30, 1905	55	191
Dover No. 4 SW $\frac{1}{4}$				
	Jan. 28, 1905	Jan. 30, 1905	55	192

of all Notices of Location of Mining Claims recorded in the office of the County Recorder of the County of Kern, State of California, during the years 1899 to 1906, both years inclusive, affecting or in any way relating to Section 26, in Township 30 South, Range 23 East, Mount Diablo Base and Meridian, in the County of Kern, State of California. [1328]

Notice of Location	Date	Recorded—Mining Records	
			Book Page

Pelican Oil Co. No. 19 NE $\frac{1}{4}$	Nov. 8, 1899	Nov. 18, 1899	18	22
Pelican Oil Co. No. 29 NW $\frac{1}{4}$	Nov. 9, 1899	Nov. 18, 1899	18	29
Rajah No. 97 SW $\frac{1}{4}$	Dec. 14, 1899	Dec. 15, 1899	18	304
Rajah No. 98 SE $\frac{1}{4}$	Dec. 14, 1899	Dec. 15, 1899	18	305
Wagont No. 63 NW $\frac{1}{4}$	Jan. 1, 1901	Jan. 2, 1901	30	32
Wagont No. 62 NE $\frac{1}{4}$	Jan. 1, 1901	Jan. 2, 1901	30	31
Wagont No. 65 SE $\frac{1}{4}$	Jan. 1, 1901	Jan. 2, 1902	30	33
Wagont No. 64 SW $\frac{1}{4}$	Jan. 1, 1901	Jan. 2, 1901	30	32
Eagle SW $\frac{1}{4}$	Jan. 24, 1901	Feb. 9, 1901	27	411
Wilson NW $\frac{1}{4}$	Jan. 24, 1901	Feb. 25, 1901	27	488

Adna No. 2 SW $\frac{1}{4}$				
	Jan. 1, 1903	Jan. 2, 1903	45	230
Sultan No. 5-- NE $\frac{1}{4}$				
	Jan. 1, 1903	Jan. 3, 1903	30	135
Sultan No. 49 SE $\frac{1}{4}$				
	Jan. 1, 1903	Jan. 3, 1903	30	135
Black Jack No. 1 SW $\frac{1}{4}$				
	Jan. 1, 1903	Jan. 3, 1903	45	374
Blue Jay NW $\frac{1}{4}$				
	Jan. 1, 1903	Jan. 3, 1903	45	375
Buckhorn No. 1 NE $\frac{1}{4}$				
	Feb. 11, 1903	Mar. 10, 1903	31	456
Buckhorn No. 2 NW $\frac{1}{4}$				
	Feb. 11, 1903	Mar. 10, 1903	31	459
Buckhorn No. 3 SE $\frac{1}{4}$				
	Feb. 11, 1903	Mar. 10, 1903	31	459
Buckhorn No. 4 SW $\frac{1}{4}$				
	Feb. 11, 1903	Mar. 10, 1903	31	460
Elk Hills No. 25 NW $\frac{1}{4}$				
	Jan. 1, 1905	Jan. 7, 1905	54	397
Elks Range No. 26 SW $\frac{1}{4}$				
	Jan. 1, 1905	Jan. 7, 1905	54	421
				[1329]

# MEMORANDUM ABSTRACT

of all Notices of Location of Mining Claims recorded in the office of the County Recorder of the County of Kern, State of California, during the years 1899 to 1906, both years inclusive, affecting or in any way relating to Section 27, in Township 30 South, Range 23 East, Mount Diablo Base and Meridian, in the County of Kern, State of California.

1674      *The Southern Pacific Co. et al. vs.*

Notice of Location	Date	Recorded—Mining Records	Book	Page
Blue Hills Oil Co. No. 4 NE $\frac{1}{4}$				
	Nov. 26, 1899	Dec. 2, 1899	18	149
Blue Hills Oil Co. No. 10 NW $\frac{1}{4}$				
	Nov. 28, 1899	Dec. 2, 1899	18	151
Rajah No. 95 SW $\frac{1}{4}$				
	Dec. 14, 1899	Dec. 15, 1899	18	303
Rajah No. 96 SE $\frac{1}{4}$				
	Dec. 14, 1899	Dec. 15, 1899	18	304
Wagont No. 66 NE $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 2, 1901	30	33
Wagont No. 67 NW $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 2, 1901	30	34
Wagont No. 68 SW $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 2, 1901	30	34
Wagont No. 69 SE $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 2, 1901	30	35
Bonton NW $\frac{1}{4}$				
	Jan. 24, 1901	Jan. 30, 1901	34	87
Flugstod NE $\frac{1}{4}$				
	Jan. 24, 1901	Jan. 30, 1901	34	88
Charley SE $\frac{1}{4}$				
	Jan. 24, 1901	Jan. 30, 1901	34	89
Dipsev SW $\frac{1}{4}$				
	Jan. 24, 1901	Jan. 30, 1901	34	89
Vista Laguna No. 3 NE $\frac{1}{4}$				
	Feb. 12, 1903	Mar. 6, 1903	46	470
Vista Laguna No. 4 NW $\frac{1}{4}$				
	Feb. 12, 1903	Mar. 6, 1903	46	471

Vista Laguna No. 5 SW $\frac{1}{4}$

Feb. 12, 1903 Mar. 6, 1903 46 472

Vista Laguna No. 6 SE $\frac{1}{4}$

Feb. 12, 1903 Mar. 6, 1903 46 473

[1330]

Notice of Location Date Recorded—Mining Records  
Book Page

White Cloud No. 2 NW $\frac{1}{4}$

Jan. 1, 1903 Apr. 20, 1903 31 461

White Cloud No. 1 NE $\frac{1}{4}$

Jan. 1, 1903 Apr. 20, 1903 31 461

Elk Hills No. 27 NE $\frac{1}{4}$

Jan. 1, 1905 Jan. 7, 1905 54 399

Elk Hills No. 28 NW $\frac{1}{4}$

Jan. 1, 1905 Jan. 7, 1905 54 399

Elk Hills No. 29 SW $\frac{1}{4}$

Jan. 1, 1905 Jan. 7, 1905 54 400

Elk Hills No. 30 SE $\frac{1}{4}$

Jan. 1, 1905 Jan. 7, 1905 54 401

# MEMORANDUM ABSTRACT

of all Notices of Location of Mining Claims recorded in the office of the County Recorder of the County of Kern, State of California, during the years 1889 to 1906, both years inclusive, affecting or in any way relating to Section 28, in Township 30 South, Range 23 East, Mount Diablo Base and Meridian, in the County of Kern, State of California.

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Book Page

Rajah No. 91 NW $\frac{1}{4}$

Dec. 14, 1899 Dec. 15, 1899 18 301

1676      *The Southern Pacific Co. et al. vs.*

Rajah No. 92 NE $\frac{1}{4}$	Dec. 14, 1900	Dec. 15, 1899	18	301
Rajah No. 93 SW $\frac{1}{4}$	Dec. 14, 1899	Dec. 15 1899	18	302
Rajah No. 94 SE $\frac{1}{4}$	Dec. 14, 1899	Dec. 15, 1899	18	302
Bonanza No. 1 NW $\frac{1}{4}$	Dec. 17, 1899	Dec. 19, 1899	18	398
Fox Hound SW $\frac{1}{4}$	Dec. 17, 1899	Dec. 19, 1899	18	398
				[1331]

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Colonel SE $\frac{1}{4}$	Dec. 17, 1899	Dec. 19, 1899	18	399
Esparanza NE $\frac{1}{4}$	Dec. 17, 1899	Dec. 19, 1899	18	400
Wood SW $\frac{1}{4}$	Dec. 20, 1900	Dec. 27, 1900	24	295
Dewey NW $\frac{1}{4}$	Dec. 20, 1900	Dec. 27, 1900	24	299
Wagont No. 70 NE $\frac{1}{4}$	Jan. 1, 1901	Jan. 2, 1901	30	35
Wagont No. 71 NW $\frac{1}{4}$	Jan. 1, 1901	Jan. 2, 1901	30	36
Wagont No. 72 SW $\frac{1}{4}$	Jan. 1, 1901	Jan. 2, 1901	30	36
Wagont No. 73 SE $\frac{1}{4}$	Jan. 1, 1901	Jan. 2, 1901	30	37
Huntington E $\frac{1}{2}$ of SW $\frac{1}{4}$	Dec. 14, 1900	Jan. 12, 1901	25	329

Hazleton	W $\frac{1}{2}$ of SW $\frac{1}{4}$				
	Dec. 14, 1900	Jan. 12, 1901	25	330	
McCarty	NE $\frac{1}{4}$				
	Jan. 24, 1901	Jan. 26, 1901	25	471	
Black Hill	SE $\frac{1}{4}$				
	Jan. 24, 1901	Jan. 26, 1901	25	477	
Dewey	NW $\frac{1}{4}$				
	Jan. 1, 1902	Jan. 2, 1902	38	24	
Wisconsin	NW $\frac{1}{4}$				
	Jan. 2, 1902	Jan. 16, 1902	35	430	
Nebraska	SW $\frac{1}{4}$				
	Jan. 2, 1902	Jan. 16, 1902	35	431	
X 10 U S Oil Co. No. 1	NE $\frac{1}{4}$				
	Feb. 14, 1903	Feb. 21, 1903	46	366	
X 10 U Eight Oil Co. No. 2	NW $\frac{1}{4}$				
	Feb. 14, 1903	Feb. 21, 1903	46	367	
X 10 U 8 Oil Co. No. 3	SW $\frac{1}{4}$				
	Feb. 14, 1903	Feb. 21, 1903	46	368	
X 10 U 8 Oil Co. No. 4	SE $\frac{1}{4}$				
	Feb. 14, 1903	Feb. 21, 1903	46	369	

## MEMORANDUM ABSTRACT

of all Notices of Location of Mining Claims recorded in the office of the County Recorder of the County of Kern, State of California, during the years 1899 to 1906, both years inclusive, affecting or in any way relating to Section 29, [1332] in Township 30 South, Range 23 East, Mount Diablo Base and Meridian, in the County of Kern, State of California.

1678      *The Southern Pacific Co. et al. vs.*

Notice of Location	Date	Recorded—Mining Records	Book Page	
Rajah No. 140 NW $\frac{1}{4}$				
	Dec. 14, 1899	Dec. 16, 1899	18	338
Rajah No. 141 NE $\frac{1}{4}$				
	Dec. 14, 1899	Dec. 16, 1899	18	339
Rajah No. 142 SW $\frac{1}{4}$				
	Dec. 14, 1899	Dec. 16, 1899	18	339
Rajah No. 143 SE $\frac{1}{4}$				
	Dec. 14, 1899	Dec. 16, 1899	18	340
Ferret SW $\frac{1}{4}$				
	Dec. 18, 1899	Dec. 19, 1899	18	397
Rabbit Foot NW $\frac{1}{4}$				
	Dec. 18, 1899	Dec. 19, 1899	18	398
Bear SE $\frac{1}{4}$				
	Dec. 18, 1899	Dec. 19, 1899	18	401
Wagont No. 74 NE $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 2, 1901	30	37
Wagont No. 75 NW $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 2, 1901	30	38
Wagont No. 76 SW $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 2, 1901	30	38
Wagont No. 77 SE $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 2, 1901	30	39
White Cloud No. 7 NW $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 3, 1901	27	121
Montana E $\frac{1}{2}$ of SW $\frac{1}{4}$				
	Dec. 13, 1900	Jan. 7, 1901	26	276
Oregon W $\frac{1}{2}$ of SW $\frac{1}{4}$				
	Dec. 12, 1900	Jan. 7, 1901	26	277
Morning Sun SE $\frac{1}{4}$				
	Dec. 20, 1900	Jan. 10, 1901	26	341

Gold Bag NW $\frac{1}{4}$				
	Dec. 20, 1900	Jan. 10, 1901	26	351
White Cloud No. 6 SW $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 10, 1901	27	187
Salem E $\frac{1}{2}$ of SE $\frac{1}{4}$				
	Dec. 14, 1900	Jan. 11, 1901	25	325
Berwick W $\frac{1}{2}$ of SE $\frac{1}{4}$				
	Dec. 14, 1900	Jan. 11, 1901	25	326
Evening Star NE $\frac{1}{4}$				
	Dec. 20, 1900	Jan. 15, 1901	25	368
Iowa SE $\frac{1}{4}$				
	Jan. 2, 1902	Jan. 16, 1902	35	431
Elk Hills No. 10 SE $\frac{1}{4}$				
	Jan. 5, 1903	Jan. 9, 1903	45	493
Elk Hills No. 5 SW $\frac{1}{4}$				
	Jan. 1, 1903	Jan. 9, 1903	45	498
1903 Oil Claim No. 5 NE $\frac{1}{4}$				
	Jan. 2, 1903	Jan. 9, 1903	46	118
				[1333]

# MEMORANDUM ABSTRACT

of all Notices of Location of Mining Claims recorded in the office of the County Recorder of the County of Kern, State of California, during the years 1899 to 1906, both years inclusive, affecting or in any way relating to Section 30, in Township 30 South, Range 23 East, Mount Diablo Base and Meridian, in the County of Kern, State of California.

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Rajah No. 144 NW $\frac{1}{4}$				
	Dec. 14, 1899	Dec. 16, 1899	18	341

1680      *The Southern Pacific Co. et al. vs.*

Rajah No. 145 NE $\frac{1}{4}$				
	Dec. 14, 1899	Dec. 16, 1899	18	341
Rajah No. 146 SW $\frac{1}{4}$				
	Dec. 14, 1899	Dec. 16, 1899	18	342
Rajah No. 147 SE $\frac{1}{4}$				
	Dec. 14, 1899	Dec. 16, 1899	18	342
Gopher SE $\frac{1}{4}$				
	Dec. 18, 1899	Dec. 19, 1899	18	400
Rattle Snake NE $\frac{1}{4}$				
	Dec. 18, 1899	Dec. 19, 1899	18	401
New York E $\frac{1}{2}$ of SE $\frac{1}{4}$				
	Dec. 12, 1900	Dec. 19, 1900	23	451
Virginia W $\frac{1}{2}$ of SE $\frac{1}{4}$				
	Dec. 13, 1900	Dec. 19, 1900	23	454
NE $\frac{1}{4}$	Dec. 20, 1900	Dec. 27, 1900	24	301
Virginia NW $\frac{1}{4}$				
	Dec. 22, 1900	Dec. 28, 1900	27	2
Wagont No. 78 NE $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 2, 1901	30	39
Wagont No. 79 NW $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 2, 1901	30	40
Wagont No. 80 SW $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 2, 1901	30	40
Wagont No. 81 SE $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 2, 1901	30	41
White Cloud No. 3 NE $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 3, 1901	25	179
White Cloud No. 2, NW $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 3, 1901	25	180
White Cloud No. 1 SW $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 3, 1901	25	181

*The United States*

1681

Notice of Location    Date    Recorded—Mining Records

Book Page

White Cloud No. 4 SE $\frac{1}{4}$ 

Jan. 1, 1901    Jan. 10, 1901    27    187

Virginia NW $\frac{1}{4}$ 

Jan. 1, 1902    Jan. 2, 1902    38    22

Stedman No. 2 NW $\frac{1}{4}$ 

Jan. 1, 1903    Jan. 2, 1903    45    225

Elk Hills No. 1 SW $\frac{1}{4}$ 

Jan. 1, 1903    Jan. 9, 1903    45    494

Elk Hills No. 2, NW $\frac{1}{4}$ 

Jan. 1, 1903    Jan. 9, 1903    45    496

Elk Hills No. 4 SE $\frac{1}{4}$ 

Jan. 1, 1903    Jan. 9, 1903    45    497

1903 Oil Claim No. 2 NE $\frac{1}{4}$ 

Jan. 1, 1903    Jan. 9, 1903    46    117

Pine SW $\frac{1}{4}$ 

Jan. 1, 1906    Jan. 3, 1906    57    331

Red Fox NW $\frac{1}{4}$ 

Jan. 1, 1906    Jan. 6, 1906    57    356

## MEMORANDUM    ABSTRACT

of all Notices of Location of Mining Claims recorded in the office of the County Recorder of the County of Kern, State of California, during the years 1899 to 1906, both years inclusive, affecting or in any way relating to Section 32, in Township 30 South, Range 23 East, Mount Diablo Base and Meridian, in the County of Kern, State of California.    [1335]

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Rajah No. 148 NW $\frac{1}{4}$ 

Dec. 14, 1899    Dec. 16, 1899    18    343

1682      *The Southern Pacific Co. et al. vs.*

Rajah No. 150 SW $\frac{1}{4}$				
	Dec. 14, 1899	Dec. 16, 1899	18	344
Rajah No. 149 NE $\frac{1}{4}$				
	Dec. 14, 1899	Dec. 16, 1899	18	344
Rajah No. 151 SE $\frac{1}{4}$				
	Dec. 14, 1899	Dec. 16, 1899	18	345
Garciosa NE $\frac{1}{4}$				
	Dec. 18, 1899	Dec. 19, 1899	18	400
Chipmunk NW $\frac{1}{4}$				
	Dec. 18, 1899	Dec. 19, 1899	18	401
Illinois W $\frac{1}{2}$ of SE $\frac{1}{4}$				
	Dec. 13, 1900	Dec. 19, 1900	23	450
Ohio E $\frac{1}{2}$ of SE $\frac{1}{4}$				
	Dec. 13, 1900	Dec. 19, 1900	23	452
Sunnyside *				
	Dec. 24, 1900	Dec. 27, 1900	27	1
Irene *				
	Dec. 24, 1900	Dec. 28, 1900	28	2
Bonita *				
	Dec. 24, 1900	Dec. 31, 1900	27	4
Wagont No. 82 NE $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 2, 1901	30	41
Wagont No. 83 NW $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 2, 1901	30	42
Wagont No. 84 SW $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 2, 1901	30	42
Wagont No. 85 SE $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 2, 1901	30	43
Los Angeles NE $\frac{1}{4}$				
	Dec. 20, 1900	Jan. 10, 1901	26	352
White Cloud No. 13 NE $\frac{1}{4}$				
	Jan. 5, 1901	Jan. 10, 1901	27	186

*The United States*

1683

White Cloud No. 5 NW $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 10, 1901	27	188
White Cloud No. 12 SE $\frac{1}{4}$				
	Jan. 5, 1901	Jan. 10, 1901	27	188
White Cloud No. 11 SW $\frac{1}{4}$				
	Jan. 5, 1901	Jan. 10, 1901	27	189
Shickshinny W $\frac{1}{2}$ of NE $\frac{1}{4}$				
	Dec. 14, 1900	Jan. 11, 1901	25	324
West Union E $\frac{1}{2}$ of NE $\frac{1}{4}$				
	Dec. 14, 1900	Jan. 11, 1901	25	327
Ohio E $\frac{1}{2}$ of SW $\frac{1}{4}$				
	Dec. 13, 1900	Jan. 30, 1901	34	86
Elk Hills No. 6 NW $\frac{1}{4}$				
	Jan. 1, 1903	Jan. 9, 1903	45	499
Elk Hills No. 7 NE $\frac{1}{4}$				
	Jan. 1, 1903	Jan. 9, 1903	47	1
Elk Hills No. 8 SE $\frac{1}{4}$				
	Jan. 1, 1903	Jan. 9, 1903	47	2
Elk Hills No. 9 SW $\frac{1}{4}$				
	Jan. 1, 1903	Jan. 9, 1903	47	3

( \* Described by metes and bounds) [1336]

## MEMORANDUM ABSTRACT

of all Notices of Location of Mining Claims recorded in the office of the County Recorder of the County of Kern, State of California, during the years 1899 to 1906, both years inclusive, affecting or in any way relating to Section 33, in Township 30 South, Range 23 East, Mount Diablo Base and Meridian, in the County of Kern, State of California.

1684      *The Southern Pacific Co. et al. vs.*

Notice of Location	Date	Recorded—Mining Records	Book	Page
Rajah No. 152 NW $\frac{1}{4}$				
	Dec. 14, 1899	Dec. 16, 1899	18	345
Rajah No. 153 NE $\frac{1}{4}$				
	Dec. 14, 1899	Dec. 16, 1899	18	347
Rajah No. 154 SW $\frac{1}{4}$				
	Dec. 14, 1899	Dec. 16, 1899	18	347
Rajah No. 150 SE $\frac{1}{4}$				
	Dec. 16, 1899	Dec. 16, 1899	18	348
Wagont No. 86 NE $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 2, 1901	30	43
Wagont No. 87 NW $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 2, 1901	30	44
Wagont No. 88 SW $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 2, 1901	30	44
Wagont No. 89 SE $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 2, 1901	30	45
Beaver NW $\frac{1}{4}$				
	Dec. 20, 1900	Jan. 7, 1901	26	270
Fremont W $\frac{1}{2}$ of SW $\frac{1}{4}$				
	Dec. 13, 1900	Jan. 7, 1901	26	274
Georgia W $\frac{1}{2}$ of SE $\frac{1}{4}$				
	Dec. 13, 1900	Jan. 11, 1901	25	328
New Columbus W $\frac{1}{2}$ of NW $\frac{1}{4}$				
	Dec. 14, 1900	Jan. 12, 1901	25	331
Town Hill E $\frac{1}{2}$ of NW $\frac{1}{4}$				
	Dec. 14, 1900	Jan. 12, 1901	25	332
W. S. Cather No. 1 NW $\frac{1}{4}$				
	Jan. 24, 1901	Feb. 4, 1901	33	310

McCarty No. 2 NE $\frac{1}{4}$				
	Jan. 24, 1901	Feb. 8, 1901	27	408
Angelus SE $\frac{1}{4}$				
	Jan. 1, 1902	Jan. 2, 1902	38	23
Grey Eagle NW $\frac{1}{4}$				
	Jan. 1, 1902	Jan. 4, 1902	41	48
[1337]				

Notice of Location    Date    Recorded—Mining Records  
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White Horse No. 4 SW $\frac{1}{4}$				
	Jan. 1, 1903	Jan. 3, 1903	45	376
White Horse No. 3 NW $\frac{1}{4}$				
	Jan. 1, 1903	Jan. 3, 1903	45	377
White Horse No. 1 SE $\frac{1}{4}$				
	Jan. 1, 1903	Jan. 3, 1903	45	378
White Horse No. 2 NE $\frac{1}{4}$				
	Jan. 1, 1905	Jan. 3, 1903	45	379

# MEMORANDUM ABSTRACT

of all Notices of Location of Mining Claims recorded in the office of the County Recorder of the County of Kern, State of California, during the years 1899 to 1906, both years inclusive, affecting or in any way relating to Section 34, Township 30 South, Range 23 East, Mount Diablo Base and Meridian, in the County of Kern, State of California.

Notice of Location    Date    Recorded—Mining Records  
Book Page

Rajah No. 101 NW $\frac{1}{4}$				
	Dec. 14, 1899	Dec. 15, 1899	18	307
Rajah No. 102 SW $\frac{1}{4}$				
	Dec. 14, 1899	Dec. 15, 1899	18	307

1686      *The Southern Pacific Co. et al. vs.*

Rajah No. 103 NE $\frac{1}{4}$	Dec. 14, 1899	Dec. 15, 1899	18	308
Rajah No. 104 SE $\frac{1}{4}$	Dec. 14, 1899	Dec. 15, 1899	18	308
Antelope NW $\frac{1}{4}$	Dec. 18, 1899	Dec. 19, 1899	18	399
Wagont No. 90 NE $\frac{1}{4}$	Jan. 1, 1901	Jan. 2, 1901	30	45
				[1338]
Notice of Location	Date	Recorded—Mining Records	Book Page	
Wagont No. 91 NW $\frac{1}{4}$	Jan. 1, 1901	Jan. 2, 1901	30	46
Wagont No. 92 SW $\frac{1}{4}$	Jan. 1, 1901	Jan. 2, 1901	30	46
Wagont No. 93 SE $\frac{1}{4}$	Jan. 1, 1901	Jan. 2, 1901	30	47
Big Thunder NW $\frac{1}{4}$	Jan. 24, 1901	Jan. 31, 1901	33	257
Sultan No. 41 NW $\frac{1}{4}$	Jan. 1, 1903	Jan. 3, 1903	30	133
Sultan No. 42 NE $\frac{1}{4}$	Jan. 1, 1903	Jan. 3, 1903	30	133
Sultan No. 39 SE $\frac{1}{4}$	Jan. 1, 1903	Jan. 3, 1903	30	134
Sultan No. 40 SW $\frac{1}{4}$	Jan. 1, 1903	Jan. 3, 1903	30	134

MEMORANDUM    ABSTRACT

Of all Notices of Location of Mining Claims recorded  
in the office of the County Recorder of the County of

Kern, State of California, during the years 1899 to 1906, both years inclusive, affecting or in any way relating to Section 35, in Township 30 South, Range 23 East, Mount Diablo Base and Meridian, in the County of Kern, State of California.

Notice of Location    Date    Recorded—Mining Records  
Book Page

Rajah No. 105 NW $\frac{1}{4}$

Dec. 14, 1899    Dec. 15, 1899    18    309

Rajah No. 106 NE $\frac{1}{4}$

Dec. 14, 1899    Dec. 15, 1899    18    310

Rajah No. 107 SW $\frac{1}{4}$

Dec. 14, 1899    Dec. 15, 1899    18    310

Rajah No. 108 SE $\frac{1}{4}$

Dec. 14, 1899    Dec. 15, 1899    18    311

[1339]

Notice of Location    Date    Recorded—Mining Records  
Book Page

Wagont No. 94 NE $\frac{1}{4}$

Jan. 1, 1901    Jan. 2, 1901    30    47

Wagont No. 95 NW $\frac{1}{4}$

Jan. 1, 1901    Jan. 2, 1901    30    48

Wagont No. 96 SW $\frac{1}{4}$

Jan. 1, 1901    Jan. 2, 1901    30    48

Wagont No. 97 SE $\frac{1}{4}$

Jan. 1, 1901    Jan. 2, 1901    30    49

Sultan No. 43 NW $\frac{1}{4}$

Jan. 1, 1903    Jan. 3, 1903    30    130

Sultan No. 44 NE $\frac{1}{4}$

Jan. 1, 1903    Jan. 3, 1903    30    131

1688      *The Southern Pacific Co. et al. vs.*

Sultan No. 37 SE $\frac{1}{4}$

Jan. 1, 1903    Jan. 3, 1903    30    131

Sultan No. 38 SW $\frac{1}{4}$

Jan. 1, 1903    Jan. 3, 1903    30    132

#### MEMORANDUM    ABSTRACT

Of all Notices of Location of Mining Claims recorded in the office of the County Recorder of the County of Kern, State of California, during the years 1899 to 1906, both years inclusive, affecting or in any way relating to Section 36, Township 30 South, Range 23 East, Mount Diablo Base and Meridian, in the County of Kern, State of California.

Notice of Location    Date    Recorded—Mining Records  
Book Page

Rajah No. 109 NW $\frac{1}{4}$

Dec. 14, 1899    Dec. 15, 1899    18    311

Rajah No. 110 NE $\frac{1}{4}$

Dec. 14, 1899    Dec. 15, 1899    18    312

Rajah No. 111 SW $\frac{1}{4}$

Dec. 14, 1899    Dec. 15, 1899    18    313

Rajah No. 112 SE $\frac{1}{4}$

Dec. 14, 1899    Dec. 15, 1899    18    313

[1340]

Notice of Location    Date    Recorded—Mining Records  
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Rustler No. 12 NE $\frac{1}{4}$

Dec. 20, 1899    June 13, 1900    18    431

Wagont No. 98 NE $\frac{1}{4}$

Jan. 1, 1901    Jan. 2, 1901    30    49

Wagont No. 99 NW $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 2, 1901	30	50
Wagont No. 100 SW $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 2, 1901	30	50
Wagont No. 101 SE $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 2, 1901	30	51
Sultan No. 45 NW $\frac{1}{4}$				
	Jan. 1, 1903	Jan. 3, 1903	30	128
Sultan No. 46 NE $\frac{1}{4}$				
	Jan. 1, 1903	Jan. 3, 1903	30	129
Sultan No. 35 SE $\frac{1}{4}$				
	Jan. 1, 1903	Jan. 3, 1903	30	129
Sultan No. 36 SW $\frac{1}{4}$				
	Jan. 1, 1903	Jan. 3, 1903	30	130
Black Jack SW $\frac{1}{4}$				
	Jan. 1, 1905	Jan. 3, 1905	54	296
White Horse NW $\frac{1}{4}$				
	Jan. 1, 1905	Jan. 3, 1905	54	297
Beanfield No. 17 SE $\frac{1}{4}$				
	Jan. 1, 1905	Jan. 17, 1905	55	65
Beanfield No. 18 NE $\frac{1}{4}$				
	Jan. 1, 1905	Jan. 17, 1905	55	66

Dated at Bakersfield, California, this 14th day of September, 1912.

THE KERN COUNTY ABSTRACT COMPANY,

By

H. C. YATES

Secretary.

(Seal)

THE KERN COUNTY ABSTRACT COMPANY

Incorporated

Mar. 29, 1895

Bakersfield, Cal.

[1341]

MR. MILLS:—I now offer in evidence, under the same stipulation, an abstract of mining location notices, from the books of the recorder of the county of Kern, during the same period of time, covering Sections 29, 31 and 33, in Township 30 South, Range 24 East, which is a township immediately adjoining the lands involved in suit, on the east, for the purpose of showing the interest of J. B. Treadwell and certain other employees of the Southern Pacific Company and Southern Pacific Railroad Company, defendants in this suit.

MR. LEWERS:—We are willing that the same stipulation shall apply; but we make the same objections and motion as to this evidence, and the additional objection that it is incompetent, irrelevant and immaterial, because the evidence offered concerns lands situated in another township, and for the further reason that no showing has been made indicating in any way that any of the defendants were connected, directly or indirectly, with the location referred to, if any such locations were made, and no showing has been made that the witness J. B. Treadwell in any way authorized or directed any such locations, or that he had any knowledge of their existence. It will be understood, will it not, Mr. Mills, that in case either of us should discover any error in this abstract, either due to the inclusion of something that does not belong in there or the omission of something that does belong in there, that error may be corrected at a later time?

MR. MILLS:—Certainly.

MR. LEWERS:—And that we reserve the right to

offer any [1342] evidence in connection with that that we may see fit to produce?

MR. MILLS:—Certainly.

MR. MILLS:—I will now read into the record the matters last referred to and offered in evidence, as follows: [1343]

MEMORANDUM ABSTRACT

Of all Notices of Location of Mining Claims recorded in the office of the County Recorder of the County of Kern, State of California, during the years 1899 to 1906, both years inclusive, affecting or in any way relating to Section 29, in Township 30 South, Range 24 East, Mount Diablo Base and Meridian, in the County of Kern, State of California.

Notice of Location	Date	Recorded—Mining Records	Book	Page
Pelican Oil Co. No. 6 SW $\frac{1}{4}$				
	Nov. 6, 1899	Nov. 18, 1899	18	17
Pelican Oil Co. No. 11 SE $\frac{1}{4}$				
	Nov. 6, 1899	Nov. 18, 1899	18	19
Pelican Oil Co. No. 12 NE $\frac{1}{4}$				
	Nov. 6, 1899	Nov. 18, 1899	18	19
Pelican Oil Co. No. 13 NW $\frac{1}{4}$				
	Nov. 6, 1899	Nov. 18, 1899	18	20
Rustler No. 8 SE $\frac{1}{4}$				
	Dec. 19, 1899	Jan. 13, 1900	18	432
Wagont No. 138 NE $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 2, 1901	30	69
Wagont No. 139 NW $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 2, 1901	30	70

1692      *The Southern Pacific Co. et al. vs.*

Wagont No. 140 SW $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 2, 1901	30	70
Wagont No. 141 SE $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 2, 1901	30	71
White Cloud No. 7 NW $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 3, 1901	27	121
Suprise NE $\frac{1}{4}$				
	Feb. 17, 1901	Feb. 23, 1901	33	398
Argonaut NW $\frac{1}{4}$				
	Feb. 17, 1901	Mar. 23, 1901	34	446
I no SW $\frac{1}{4}$				
	Oct. 24, 1901	Oct. 18, 1901	35	274
Sultan No. 13 NW $\frac{1}{4}$				
	Jan. 1, 1903	Jan. 3, 1903	30	121
Sultan No. 24 NE $\frac{1}{4}$				
	Jan. 1, 1903	Jan. 3, 1903	30	122
Sultan No. 23 SE $\frac{1}{4}$				
	Jan. 1, 1903	Jan. 3, 1903	30	122
Sultan No. 14 SW $\frac{1}{4}$				
	Jan. 1, 1903	Jan. 3, 1903	30	123
[1344]				

Notice of Location    Date    Recorded—Mining Records  
Book Page

Globe NE $\frac{1}{4}$				
	Jan. 1, 1903	Jan. 5, 1903	39	81
Uno NW $\frac{1}{4}$				
	Jan. 1, 1903	Jan. 5, 1903	39	82
Monte Carlo SE $\frac{1}{4}$				
	Jan. 1, 1903	Jan. 5, 1903	39	84
Dredger No. 1 SE $\frac{1}{4}$				
	Jan. 1, 1905	Jan. 17, 1905	55	67

Dredger No. 2 NE $\frac{1}{4}$				
	Jan. 1, 1905	Jan. 17, 1905	55	68
Dredger No. 3 NW $\frac{1}{4}$				
	Jan. 1, 1905	Jan. 17, 1905	55	69
Dredger No. 4 SW $\frac{1}{4}$				
	Jan. 1, 1905	Jan. 17, 1905	55	70

MEMORANDUM ABSTRACT

Of all Notices of Location of Mining Claims recorded in the office of the County Recorder of the County of Kern, State of California, during the years 1899 to 1906, both years inclusive, affecting or in any way relating to Section 31, Township 30 South, Range 24 East, Mount Diablo Base and Meridian, in the County of Kern, State of California.

Notice of Location	Date	Recorded—Mining Records	Book	Page
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Pelican Oil Co. No. 5 NE $\frac{1}{4}$				
	Nov. 6, 1899	Nov. 18, 1899	18	17
Rajah No. 13 NW $\frac{1}{4}$				
	Dec. 14, 1899	Dec. 15, 1899	18	256
Rajah No. 14 SW $\frac{1}{4}$				
	Dec. 14, 1899	Dec. 15, 1899	18	256
Rustler No. 11 NW $\frac{1}{4}$				
	Dec. 20, 1899	Jan. 13, 1900	18	431
Wagont No. 146 NE $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 2, 1901	30	73

[1345]

Notice of Location	Date	Recorded—Mining Records	Book	Page
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Wagont No. 147 NW $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 2, 1901	30	74

**1694**      *The Southern Pacific Co. et al. vs.*

Wagont No. 148 SW $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 2, 1901	30	74
Wagont No. 149 SE $\frac{1}{4}$				
	Jan. 1, 1901	Jan. 2, 1901	30	75
Jennie Landess No. 1 SW $\frac{1}{4}$				
	Jan. 25, 1900	Feb. 4, 1901	33	306
O. C. Cather No. 1 NE $\frac{1}{4}$				
	Jan. 25, 1901	Feb. 4, 1901	33	314
J. A. Watkins No. 1 NW $\frac{1}{4}$				
	Feb. 12, 1901	Feb. 18, 1901	34	251
Thomas O'Brien No. 2 SE $\frac{1}{4}$				
	Feb. 12, 1901	Feb. 18, 1901	34	254
Sultan No. 3 NW $\frac{1}{4}$				
	Jan. 1, 1903	Jan. 3, 1903	30	113
Sultan No. 10 NE $\frac{1}{4}$				
	Jan. 1, 1903	Jan. 3, 1903	30	114
Sultan No. 9 SE $\frac{1}{4}$				
	Jan. 1, 1903	Jan. 3, 1903	30	114
Sultan No. 4 SW $\frac{1}{4}$				
	Jan. 1, 1903	Jan. 3, 1903	30	115
Beanfield No. 5 SE $\frac{1}{4}$				
	Jan. 1, 1905	Jan. 17, 1905	55	55
Beanfield No. 6 NW $\frac{1}{4}$				
	Jan. 1, 1905	Jan. 17, 1905	55	56
Beanfield No. 7 NE $\frac{1}{4}$				
	Jan. 1, 1905	Jan. 17, 1905	55	56
Beanfield No. 8 SW $\frac{1}{4}$				
	Jan. 1, 1905	Jan. 17, 1905	55	57

**MEMORANDUM ABSTRACT**

of all Notices of Location of Mining Claims recorded  
in the office of the County Recorder of the County of

Kern, State of California, during the years 1899 to 1906, both years inclusive, affecting or in any way relating to Section 33, in Township 30 South, Range 23 East, Mount Diablo Base and Meridian, in the County of Kern, State of California. [1346]

Notice of Location    Date    Recorded—Mining Records  
Book Page

Rajah No. 9 NW $\frac{1}{4}$

Dec. 14, 1899    Dec. 15, 1899    18    253

Rajah No. 10 NE $\frac{1}{4}$

Dec. 14, 1899    Dec. 15, 1899    18    254

Rajah No. 12 SE $\frac{1}{4}$

Dec. 14, 1899    Dec. 15, 1899    18    255

Rajah No. 11 SW $\frac{1}{4}$

Dec. 14, 1899    Dec. 15, 1899    18    255

NW 33 NW $\frac{1}{4}$

Dec. 13, 1899    Dec. 19, 1899    18    402

SW 36 SW $\frac{1}{4}$

Dec. 13, 1899    Dec. 19, 1899    18    402

SE 36 SE $\frac{1}{4}$

Dec. 13, 1899    Dec. 19, 1899    18    402

NE 36 NE $\frac{1}{4}$

Dec. 13, 1899    Dec. 19, 1899    18    403

Wagont No. 154 NE $\frac{1}{4}$

Jan. 1, 1901    Jan. 2, 1901    30    77

Wagont No. 155 NW $\frac{1}{4}$

Jan. 1, 1901    Jan. 2, 1901    30    78

Wagont No. 156 SW $\frac{1}{4}$

Jan. 1, 1901    Jan. 2, 1901    30    78

Wagont No. 157 SE $\frac{1}{4}$

Jan. 1, 1901    Jan. 2, 1901    30    79

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White Horse NE $\frac{1}{4}$

Jan. 1, 1901      Jan. 2, 1901      24      431

W. S. Cather No. 2 SE $\frac{1}{4}$

Jan. 24, 1901      Feb. 4, 1901      33      308

W. S. Cather No. 1 NW $\frac{1}{4}$

Jan. 24, 1901      Feb. 4, 1901      33      310

O. C. Cather No. 2 SW $\frac{1}{4}$

Jan. 24, 1901      Feb. 4, 1901      33      312

Sultan No. 27 NW $\frac{1}{4}$

Jan. 1, 1903      Jan. 3, 1903      30      125

Sultan No. 28 SW $\frac{1}{4}$

Jan. 1, 1903      Jan. 3, 1903      30      126

Look Out No. 2 NE $\frac{1}{4}$

Jan. 1, 1903      Jan. 3, 1903      45      370

Look Out No. 1 SE $\frac{1}{4}$

Jan. 1, 1903      Jan. 3, 1903      45      373

Beanfield No. 13 NW $\frac{1}{4}$

Jan. 1, 1905      Jan. 17, 1905      55      62

Beanfield No. 14 NE $\frac{1}{4}$

Jan. 1, 1905      Jan. 17, 1905      55      63

Beanfield No. 15 SW $\frac{1}{4}$

Jan. 1, 1905      Jan. 17, 1905      55      63

Beanfield No. 16 SE $\frac{1}{4}$

Jan. 1, 1905      Jan. 17, 1905      55      64

. . . . .

[1347]

Dated at Bakersfield, California, this 14th day of  
September, 1912.

The Kern County Abstract Company,  
By                      H. C. Yates,

Secretary.

(Seal)

The Kern County Abstract Company  
Incorporated  
Mar. 29, 1895  
Bakersfield, Cal.

[1348]

LOUIS V. OLCESE

Forty-sixth Witness for the Plaintiff.  
Bakersfield, California, September 17, 1912.

DIRECT EXAMINATION.

My name is Louis V. Olcese and I am a stockholder in the Ardizzi-Olcese Company, which leases land from the Southern Pacific Railroad Company for grazing purposes.

I have lived in Kern County for 25 years and have been leasing land from the railroad company about that length of time. My company now holds a lease from the railroad company for 70534.56 acres of land, including land in Township 30-23, for which we pay a rental of about four cents an acre. We hold other leases from the railroad company, the aggregate amount of land under lease by us being nearly 320,000 acres.

We use some of these lands ourselves and sublet others. Whether or not there is green grass on the land depends entirely on the rains. If it does not rain, we get no green grass. As a rule, however, we ought to get some vegetation in January. The highest price we pay for grazing purposes is ten cents an acre and the lowest price about two cents an acre. I think I have paid the same price every year. The fol-

lowing is a copy of the lease from the Southern Pacific Railroad Company to our company:

Form 3385-A    LOCAL  
(12-6-10-5M-S2596)

LEASE NO. 1418-D      V-35-29-21

THIS LEASE, made in duplicate this 15th day of December, 1911, by and between SOUTHERN PACIFIC RAILROAD COMPANY, a corporation, hereinafter for convenience called LESSOR, and ARDIZZI-OLCESE COMPANY, INCORPORATED, of the County of Kern, State of California, hereinafter for convenience called LESSEE;

WITNESSETH: That Lessor, for and in consideration of the sum of Twenty-eight hundred Twenty-one & 38/100 (\$2821.38) [1349] Dollars, to it paid, receipt whereof is acknowledged, and in further consideration of the covenants and agreements to be kept and performed by Lessee as hereinafter written, does by these presents, lease unto Lessee, for the purpose of GRAZING only, but for no other purposes whatsoever, the following described land, situated in the County of Kern, State of California, to wit:

E-1/2 of Sec. 35 (ex. R/W to Producers  
Transportation Co.) .....T. 29 S., R. 21 E.,  
All Sec. 1 (ex. R/W to Producers Trans-  
portation Co.).....  
Lots 1, 4, 9, & 10 in Sec. 11, .....T. 30 S., R. 21 E.,  
W-1/2 of Sec. 5; all Sec. 7; N-1/2,  
SW-1/4 & W-1/2 of SE-1/4 of Sec. 17;  
All Secs. 19, 29, 31; S-1/2 of NW 1/4, SW-1/4

& S- $\frac{1}{2}$  of SE  $\frac{1}{4}$  of Sec. 33,.....T. 28 S., R. 22 E.,  
W- $\frac{1}{2}$  & SE  $\frac{1}{4}$  of Sec. 3; All secs. 5, 7, 9,  
W- $\frac{1}{2}$  & SE  $\frac{1}{4}$  of Sec. 11; W- $\frac{1}{2}$  & W- $\frac{1}{2}$  of  
SE- $\frac{1}{4}$  of Sec. 13 (ex. R/W to Producers  
Transportation Co.).....All Secs. 15,  
17, 19, 21 & 23 (ex. R/W to Producers  
Transportation Co.); All Secs. 25 & 27 (ex.  
R/W to Producers Transportation Co.); All  
Secs. 29 & 31, 33 (ex. R/W to Producers  
Transportation Co.) & All Sec. 35,.....T. 29 S., R. 22 E.,  
All Secs. 1, 3, 5 (ex. R/W to Producers  
Transportation Co.); NE- $\frac{1}{4}$ , S- $\frac{1}{2}$  of  
NW- $\frac{1}{4}$ , E $\frac{1}{2}$  of NE- $\frac{1}{4}$  of NW- $\frac{1}{4}$ , E- $\frac{1}{2}$   
of W- $\frac{1}{2}$  of NE- $\frac{1}{4}$  of NW- $\frac{1}{4}$ , E- $\frac{1}{2}$  of  
NE- $\frac{1}{4}$  of SW- $\frac{1}{4}$ , W- $\frac{1}{2}$  of SW- $\frac{1}{4}$ , S- $\frac{1}{2}$   
of SE- $\frac{1}{4}$  of SW $\frac{1}{4}$ ; SE- $\frac{1}{4}$  of Sec. 7  
(except 1,37 ac. leased to Assoc. Pipe  
Line Co; .35 ac. R/W to Standard Oil [1350]  
Co. & 3.16 ac. R/W to Producers Trans-  
portation Co.); All Secs. 9, 11, 13,  
15, N- $\frac{1}{2}$ , N- $\frac{1}{2}$  of SW- $\frac{1}{4}$ , N- $\frac{1}{2}$  of  
SE- $\frac{1}{4}$ , W- $\frac{1}{2}$  of SW- $\frac{1}{4}$  of SE- $\frac{1}{4}$  &  
SE- $\frac{1}{4}$  of SE- $\frac{1}{4}$  of Sec. 17 (ex. .56  
ac. R/W to Standard Oil Co.); N- $\frac{1}{2}$ ,  
E- $\frac{1}{2}$  of SW- $\frac{1}{4}$  & SE- $\frac{1}{4}$  of Sec. 21  
(ex. McKittrick Town Lots); All Secs.  
23, 25; NE- $\frac{1}{4}$ , N- $\frac{1}{2}$  of NW- $\frac{1}{4}$ , SE- $\frac{1}{4}$   
of NW- $\frac{1}{4}$  & SE- $\frac{1}{4}$  of Sec. 27; All Sec.  
33 (ex. 2.67 ac. R/W Standard Oil Co. &  
2.62 ac. R/W to Producers Transportation

Co.); N-1/2 & SE-1/4 of Sec. 35,.....T. 30 S., R. 22 E.,  
NE-1/4 of Sec. 15; NE-1/4 of Sec. 23  
(ex. R/W to Producers Trans. Co.);

NE-1/4 of Sec. 25 (ex. R/W to Producers  
Trans. Co.) T. 31

**T. 31 S., R. 22 E.,**

S-1/2 of NE-1/4, NW-1/4 & S-1/2 of  
Sec. 19; N-1/2 of SW-1/4 of Sec. 29;

S-1/2 of Sec. 31; S-1/2 of N-1/2 &

S-1½ of Sec. 33,-

T. 29 S., R. 23 E.

SW-1/4 of Sec. 1; All Secs. 3, 5, 7, 9, 11,

13,15,17,19,21,23,25,27,29,31,33 & 35. T. 30 S., R. 23 E.

**All Secs. 5, 7, 9, S-1½ of Sec. 13, All**

Sec. 15; E-1/2 of Sec. 17; All Secs. 21,

23, 25, 27. All Sec. 29 (ex. 2.39 ac.

R/W to Standard Oil Co.) ; All Sec. 33

(ex. R/W to Standard Oil Co.); All Sec. 35

**T. 31 S., R. 23 E.,**

**All Sec. 1 (ex. 30.92 ac. Deeded to**

Standard Oil Co. & .06 ac. R/W to

Standard Oil Co.); All Sec. 3 (ex. R/W

to Standard Oil Co.); N-1/2 of Sec. 5 [1351]

(ex. R/W to Producers Trans. Co.);

**All Sec. 11,.....T. 32 S., R. 23 E.,**

S-1/2 of N-1/2 & S-1/2 of Sec. 7; All

**Secs. 17, 19, 21, SW-1/4 of NE-1/4,**

NW-1/4 of NW-1/4, S-1/2 of NW-1/4 & S-1/2

of Sec. 23; All Secs. 25, 27, 29, 31, & 35

T. 30 S., R. 24 E.,

SW-1/4 of Sec. 7; All Sec. 15 (ex. 1 ac.

R/W to Standard Oil Co.) ; All Secs. 17,

19; All Sec. 21 (ex. 1.62 ac. R/W to Standard Oil Co.); All Secs. 25, 27, All Sec. 29 (ex. 2.20 ac. R/W to Standard Oil Co.); All Sec. 31 (ex. 2.71 Ac. R/W to Standard Oil Co.); All Secs. 33 & 35

T. 31 S., R. 24 E.,

All Secs. 3, 5; All Sec. 7 (ex. R/W to Standard Oil Co.); All Secs. 9, 11, 13, 15, 17 (ex. to Standard Oil Co.); All Sec. 19 (ex. 14.17 ac R/W to Sunset Western Ry. Co. & 2 ac. occupied by warehouse & storage yard of Assoc. Oil Co. & R/W to Producers Trans. Co.); All Sec. 21 (ex. R/W to Standard Oil Co.); All Secs. 23, 25, All Sec. 27 (ex. 20 ac. for Pumping Station of Standard Oil Co. & R/W to Standard Oil Co.); All Sec. 29 (ex. R/W to Producers Trans. Co. & Ex. 2.89 ac. R/W to Sunset Western Ry. Co.); All Sec. 33 (ex. 13.45 acres R/W to Sunset Western Ry. Co. & R/W to Producers Trans. Co.); All Sec. 35.....T. 32 S., R. 24 E., Mount Diablo Base and Meridian, containing 70,534.-56 acres, more or less, with the appurtenances, for the period from December 1st, 1911, to November 30th, 1912; [1352]

**EXCEPTING AND RESERVING:** All that portion of the above described land lying within two hundred (200) feet on each side of the center line of any or all main line or branch line railroad tracks

of Lessor, or of any other railroad companies, now or hereafter constructed upon or adjacent to the said premises; also the right to use all water, needed for the operation of its railroad, which rises upon, or flows across, said land, and the necessary right of way for the conduct of water across said land in pipes, or otherwise, for railroad uses; also the right to construct, operate and maintain railroad, telegraph, telephone and electric pole lines, oil pipe lines and water pipe lines; also the exclusive right to enter upon the said leased land and prospect for water, oil coal or other minerals, and to mine the same if found, and to appropriate so much of the ground hereby leased as may be required for the discovery, development, production, storage and removal of such water, oil, coal or other minerals; all of which said exceptions and reservations shall inure to the benefit of Lessor, its successors or assigns.

**THE LESSEE HEREBY COVENANTS AND AGREES:** That Lessee will not prospect for oil, coal or other minerals on said land, nor mine or remove the same if found; nor quarry or remove stone therefrom; nor commit any waste thereon; nor remove any earth or soil; nor destroy, cut or remove any timber, trees or firewood standing or lying thereon; nor permit others, without authority from Lessor, to commit any of said acts.

That Lessee will not hold Lessor, nor Southern Pacific Company, liable for any loss or damage by fire, water, wreck or other casualty, occurring upon

the premises hereby leased, arising from the existence, maintenance or operation of any Railroad, owned or operated by said Companies, or either of them, whether occurring through any fault or negligence of said companies, or either of them, or their employes, or by reason of [1353] any imperfections of the railroad, roadbed or equipment operating thereon.

That Lessee will not assign this Lease, or sublet the whole or any part of the property hereby leased, unless written permission of Lessor be first had and obtained.

That Lessee will not break out nor farm any portion of the leased premises without written permission so to do is first had and obtained from Lessor; that at the date hereof there is no cultivated land upon said leased premises, nor any land in suitable condition for cultivation.

That in case Lessee shall, without the written consent of the Lessor first had and obtained, plant any crops upon the land herein described, Lessee shall forfeit all right and interest in and to such crops at the option of the Lessor.

That failure by Lessee to keep and perform any agreement or condition of this Lease shall operate as a forfeiture of the same, and Lessor may thereupon declare this Lease terminated, and take possession of said leased premises, together with all the improvements which may be thereon, without tender, notice or demand.

That at the termination of this Lease either wholly or in part, whether at the expiration of the full term or at any earlier time as herein provided, Lessee will surrender and deliver unto Lessor the quiet and peaceable possession of that portion of said leased premises as to which the Lease shall be terminated.

That in case Lessor shall bring suit to compel performance of, or to recover for breach of, any covenant, agreement or condition herein written, Lessee shall and will pay to Lessor reasonable attorney fees in addition to the amount of judgment and costs.

That upon being notified to exterminate and destroy rodents as required by the Legislative enactment of the State of [1354] California, approved March 13, 1909 (Act 2506-A, General Laws of California), Lessee will immediately advise Lessor of the quantity of poisoned grain necessary for the land herein described, and within ten (10) days after receiving poisoned grain from Lessor, Lessee will properly distribute the same over said land.

IT IS MUTUALLY AGREED: That Lessee shall and will keep in repair all buildings, fences and other improvements now upon the land, which are the property of Lessor, and upon the termination of this Lease leave the same in as good repair as they now are, ordinary wear expected; that Lessee may, at or before the termination of this lease, remove from the said premises any other

buildings, fences or improvements which may have been constructed thereon by, and at the cost and expense of, Lessee; provided no default shall at such time exist in respect of any payments or rentals, or in respect of any covenants, agreements or conditions to be kept and performed by Lessee.

That in case said land, or any portion thereof, shall during the term of this Lease, be by Lessor sold or leased for agricultural purposes, or required for its own use or benefit, it may terminate this lease as to such lands on ten (10) days' notice in writing mailed to Lessee at Kern, California; and that upon such termination of the Lease, or any portion thereof, Lessor will refund, and Lessee will accept, the pro rata amount of the rental for the unexpired term of the Lease (provided that if such amount shall be less than One Dollar (\$1) no refund shall be claimed or made), and will at and upon such termination quietly and peaceably vacate, and surrender possession of, said premises.

That in case Lessee shall (except by Lessor) be lawfully deprived of the possession of said premises, or any part thereof, Lessee shall notify Lessor in writing, setting forth in full the circumstances in relation thereto, whereupon Lessor may, [1355] at its option, either install Lessee in possession of the said premises, or refund to Lessee the pro rata amount of the rental for the unexpired term of the Lease, from and after the receipt of such notice, computed upon the number of acres the use whereof

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Lessee is so deprived, whereupon no claims for damages of whatsoever kind or character incurred by Lessee by reason of such dispossession shall be chargeable against Lessor.

That time and specific performance are each of the essence of this Lease.

IN WITNESS WHEREOF, Lessor has caused its name to be hereunto subscribed by its Land Commissioner, thereunto duly authorized, and Lessee has hereunto affixed its name on the day and year first above written.

**SOUTHERN PACIFIC RAILROAD COMPANY**

By B. A. McAllister

Land Commissioner

**ACCOUNTING DEPT**

Examined, found correct and registered:

C. P. Lincoln

**ARDIZZI-OLCESE COMPANY,  
INCORPORATED,**

Lessee.

By Louis V. Olcese

Pres.

Checked by

Correct.

JH HW ID

F. W. Haswell

LA

Chief Clerk Land Dep't

(Endorsed): **GRAZING LEASE NO. 1418-D**

**SOUTHERN PACIFIC RAILROAD COMPANY**

To **ARDIZZI-OLCESE CO., INC., Kern, Cal."**

[1356]

CROSS-EXAMINATION  
OF  
LOUIS V. OLCESE.

We first leased the land in the Elk Hills in 1909. Before that time I think it was leased to Miller & Lux.

After we graze our sheep on these lands, they are taken up into the mountains. This is the usual practice with sheep men in this country. They graze the sheep on the low lands in the Spring of the year and later on when the grass dries up they are taken into the higher country. They can't stay there after the grass is dry on account of the foxtail, and there is no water for them except you buy it and haul it, and that is too expensive.

The plaintiff rests. [1357]

E. J. MILEY, called on behalf of the defendants, having been first duly cautioned and solemnly sworn to testify the truth the whole truth, and nothing but the truth, testified as follows:

DIRECT EXAMINATION

By Mr. Lewers:

Q. What is your full name, Mr. Miley?

A. E. J. Miley.

Q. Where do you live, Mr. Miley?

A. Pasadena, California.

Q. And you have an office in Los Angeles, have you not?

A. Yes sir.

Q. Where is your office?

A. In the Trust and Savings Building, 918.

Q. And what is your business, Mr. Miley?

A. Oil Business.

Q. How long have you been engaged in the oil business?

A. Since the first part of the year 1900.

Q. And at the present time, with what companies, if any, are you connected?

The State Consolidated Oil Company.

Q. And what office do you hold in connection with that company?

A. President and Manager.

Q. And that is the company that has its office in the Savings & Trust Building in this city?

A. Yes.

Q. Are you acquainted with the McKittrick district?

A. Yes.

Q. When did you first go there?

A. In the spring of 1900.

Q. And will you state what connection you have had with that [1358] district in the way of development?

A. In the year 1900 I went in partnership with Joseph B Dabney, and we acquired some leases from Clarence Berry and others on section 29 in 30-22, just above the town of McKittrick, and we began operating, and drilled, I think, about ten wells in the year 1900 on that section, and in the year 1901 Mr. Joseph B. Dabney with E. Donahue and a man

named E. M. Wood acquired three sections in the Midway, Sections 19, 31-23 and sections 13 and 11, 31-22, and section 11 was turned over to the Silver Bow Oil Company, a Montana corporation, and we proceeded to drill a well on that Section 11.

Q. Were you connected with this oil company that you have just mentioned?

A. Yes; I was the field manager of the Silver Bow Oil Company, as well as a stockholder.

Q. By Mr. Mills: That Section 11 was in what township?

A. 31-22, and the well was located near the southeast corner of it. We drilled this well down 1425 feet and then abandoned it.

Q. By Mr. Lewers: What did you find in that well in the way of oil?

A. We struck about ten feet of tar sand at a thousand feet. It was tar; it was not productive of oil.

Q. Well, did you do anything further with that well after that?

A. Well, we drilled it down 1425 feet, and had some little showings of oil after that, but nothing to warrant us to try to operate it.

Q. And what did you do with it?

A. Abandoned it.

Q. When was that abandoned?

Mr. Mills: Objected to as immaterial when it was abandoned or whether it ever was abandoned. [1359]

A. I think we abandoned that in the spring of

1903, and moved the material and rig over on Section 19 of 30-22, the McKittrick district, and we put it up over a well that had been drilled down to about 800 feet, that is, we acquired a twenty-acre property in that Section 19, 30-22 and attempted to finish this well and another one that had been started on the property before we acquired it, and we had abandoned, in fact, both those wells on account of one of them was so badly "buggered up", as we term it in the oil business—full of tools, and so forth—and the other one was an unproductive well. It had some oil, but it was heavy and would not justify us in operating it as a producing well. We then drilled three more wells on this property during that year of 1903, and shut the proposition down then as we had not gotten enough production to warrant us to operate, at the price of oil.

Q. By Mr. Mills—At the then price of oil?

A. Yes, at the then price of oil. In fact, we hadn't gone deep enough, so that they were not very good wells anyway. So, I then took the rig and material and so forth and went out prospecting on Section 10. Let's see, now, what township. 30-21. There I drilled a well to 1500 feet.

Mr. Mills—I want to interpose an objection for immateriality and irrelevancy to the history of the misfortunes of this witness in 30-21 and in Township 30-22, because I cannot at present see any bearing it has upon the issues involved in the case.

Q. My Mr. Lewers—You may nevertheless proceed, Mr. Miley.

A. This well on Section 10, 30-21, I drilled about 1500 feet, but got no oil. I then moved the rig over onto Section 11 of the same Township, 30-21, and there got some oil, got into oil sand, but the money ran out and the oil business was [1360] bad and I had to quit and abandon my location.

Q. When was that?

A. That was in 1904.

Q. Now, you may proceed.

A. During the years of 1905—Well, I made my abandonment there, I guess it was along in 1905, finally. And in 1906 and '07, I was not active in the oil work, except that I was interested in the original property on Section 29, 30-22, and also interested in the lands down in the Midway that I spoke of as Sections 19 and 13, 11. But we shut down our operations; in fact, didn't do much during the years of 1906 and '07.

Mr. Mills—Just a moment. I think the original question put to you, to which your answer should be responsive, was what connection you had with development in the McKittrick field.

A. Yes.

Mr. Mills—I don't know that you were asked for a catalog of your adventures in the field in the Midway and other places remote from this land in controversy, and I shall have to object.

Q. By Mr. Lewers—You may proceed with the

answer as you have given it. I desire you to explain your whole connection with the oil territory in the vicinity of McKittrick, including the Midway or any other territory in that vicinity.

Mr. Mills—Well, I again object to the question, or any answer to it, for the reason that it is wholly immaterial; and I move that the answer so far given be stricken from the record.

Q. By Mr. Lewers—You may proceed.

A. In January of 1908 we began operations on Section 11, 30-22, just south of where I drilled wells for the Silver [1361] Bow Oil Company in 1903.

Q. By Mills—What section was that?

A. Section 19, 30-22.

Q. On the same section you say you started?

A. Yes, in 1908, just adjoining the property I drilled on in 1903. And up to the present time we have drilled thirteen wells on that property, which now belongs to the State Consolidated Oil Company; and I am also connected with the Providence Oil Company, which is a trustee company of the Dabney Oil Company, and in 1909 I drilled a well on Section 29, 30-22, the location where I first did my operations in 1900. There I drilled a well 3520 feet deep, which we abandoned.

Q. By Mr. Lewers—Why?

A. We didn't get a producing well. And the State Consolidated Oil Company, of which I am

manager, is now drilling a well in the Bellridge district, Section 11, 28-20.

Q. By Mr. Mills—Section what?

A. Section 11, 28-20.

Q. Township 28-20?

A. Township 28-20; yes sir.

Q. By Mr. Lewers—Are you familiar with any portion of Township 30-23 in the Elk Hills?

A. Yes.

Q. When did you first become acquainted in any way with this territory?

A. Why, along in 1901, when I was drilling a well on Section 11, 31-22.

Q. And were you in the Elk Hills at any time prior to January 1st, 1905?

A. Yes.

Q. How frequently?

A. Why, along in the year 1901 and 1902, when we were [1362] operating on 11, 31-22, I used to drive over in there every once in awhile. Probably made altogether half a dozen trips around through that country in those years.

Q. For what purpose did you make those trips?

A. Well, I wanted to look the country over with the idea of what it might be worth for oil property.

Q. Did you make any locations in the Elk Hills at that time, at any time.

A. No. I think my name appears on some locations in Section 6, 30-22, and Section 4, 30-22, in the year 1909.

Q. But not prior to 1905?

A. No.

Q. Are you familiar with Section 26 of Township 30-22?

A. Yes.

Q. Did you know a Mr. Berry, the father of Clarence J. Berry?

A. Yes.

Q. Do you know whether he had any development or any construction of any kind in that section or at any other place in the way of oil rigs?

A. Why, he erected some oil derricks in the way of assessment work on that section along the year 1900.

Q. What became of them?

Mr. Mills—Objected to as wholly immaterial.

A. Why, they were abandoned, and blown down afterwards and hauled away for fire-wood.

Q. Br. Mr. Lewers—Was there any production of oil at that place?

A. No sir.

Q. Was there any oil discovered there?

A. No.

By Mr. Mills—When? When do you mean? [1363]

A. Never.

Q. Up to the present time?

A. Up to the present time.

Q. By Mr. Lewers—Were you living in McKittrick at the time when this development was going

on that you have described, from 1900 up to 1903 and '04, Mr. Miley?

A. Yes sir; most of my time.

Q. Most of your time. What was the opinion of oil men at that time, if you know, prior to 1905, with reference to the Elk Hills being oil territory or not?

A. Why, it was never looked on as being classed worth spending money on in the development for oil at that time.

Q. Were there any locations made in there by anybody?

A. Yes; there were locations made all over the country.

Q. By what sort of men?

A. Why, men that followed up where discoveries of oil were made, or other mineral, and they go out and locate wherever there is any open land, with the idea that they might trade on their locations or perhaps something develop that would be beneficial to them at a later date.

Q. What is the term applied to that kind of locators? What are they called?

A. Why, I don't know what you would call them. "Wildcatters", I guess. I don't know what they are termed.

Q. Did any of those locators in the Elk Hills sink any wells prior to 1905, to your knowledge?

A. Not to my knowledge.

Q. Did you ever hear of any wells being sunk out there?

A. Not prior to 1909, to my knowledge.

Q. When was it that attention of oil men was first actually directed to the Elk Hills as to their oil possibilities?

A. Well, that country was not looked on as oil country at [1364] all by anybody that I talked with or come in contact with.

Q. Until when? Is it looked on as oil territory now?

A. Well, it is not looked on quite as favorably now as it was perhaps a year or so ago, because it is not looked on now, I don't believe, as being profitable oil territory at the present time.

Q. Well, when was it first looked upon as a prospective oil territory, even?

A. Well, that was, I guess, first, about 1909, to my knowledge, when the Honolulu brought in a well on Section 10, 32-24.

Q. What was the effect of that discovery by the Honolulu on the territory lying to the north and in the Elk Hills—the territory generally, as far as prospecting is concerned?

A. Why, that gave courage to people to take a chance out in there, and they "wild-catted"—made it look possible that there might be oil in that country.

Q. And what was the result?

A. The result was that there was a lot of rigs put in on all open land around there and arrange-

ments made with these locators to get on the ground, and quite a lot of development began after that all over the country there.

Q. Can you mention any companies that went in there into the Elk Hills as the result of that Honolulu excitement?

A. Well, Captain Barnadon and Tom O'Donnell formed the Barnadon Oil Company and put up rigs on a number of sections, that is, a rig on each quarter, but didn't do very much drilling—just put up these rigs to hold the ground; and the Esperanza, that was a Barnadon Company, did some drilling in the Elk Hills.

Q. Do you know in what section?

A. Yes; they drilled in 10, 31-24. They went down about [1365] 3500 feet.

Q. What did they get?

A. Didn't get anything. And then, of course, the Honolulu Oil Company drilled quite a bit out in there and got some oil; but they were more over on the Buena Vista Range, they didn't get so much out in the Elk Hills except down in 10. That was out pretty well.

Q. Do you know a company by the name of the Scottish Oil Company?

A. Yes.

Q. Where were they operating?

A. They operated on Section 30-23.

Q. In section 30, was it?

A. Yes.

Q. How deep did they sink?

A. They went down—I take that back. The Scottish drilled on 2, 30-23. They went down 4000 feet.

Q. What did they get?

A. They got some gas at about 2700.

Q. Did they get any oil?

A. No.

Q. What other companies operated in there and sank wells in Township 30-23 or in the immediate vicinity?

A. The Redlands Oil Company drilled a well on Section 30, the same township.

Q. By Mr. Mills—30-23?

A. 30-23. They went down 2830 feet. They got some gas at 1500, quite a lot of gas, but they got no oil. And the Associated Oil Company drilled on section 22 of this township, and in that well they went down 3000 feet, and it didn't amount to much.

Q. By Mr. Lewers—Did they get any oil in that well? [1366]

A. No; I don't think they got any oil in that well. They drilled another well on Section 24 of that Township, drilled it to a depth of 3850 feet, I believe, and they had some oil between 2700 and 3100 feet—they had an oil-bearing formation.

Q. Is that a producing well?

A. That well is a producing well, I understand. I have not seen the well operated myself. I have seen evidences of oil there, but I have never seen it operated, so I would not be able to judge how much it is good for as a producer, although I think it is a capac-

ity producer all right. They drilled another well on Section 26 of this Township; they went 4030 feet, and they went through some oil-bearing formation there down toward the bottom, and the well is probably good for, as I understand, about 20 barrels a day.

Q. By Mr. Mills—You say you understand. Do you know, Mr. Miley, what it is good for, of your own personal knowledge?

A. Why, I have not seen the well pumped for a given time to know, but then I judge—

Q. Well, we are not asking what you judge, but I want to suggest that volunteering hearsay evidence is improper.

Mr. Lewers—You will have a chance to cross-examine, Mr. Mills.

A. Well, I see the oil in these different wells. I know the oil was there, and from what I have talked with men working on the wells—

Mr. Mills—I object to anything any men told you working on the wells. It is wholly improper here.

Q. By Mr. Lewers—Proceed, stating what you know of your own knowledge, Mr. Miley.

A. Well, I know they have oil in this well, of high gravity—better than 30 degrees.

Q. Do you know whether they have it in any quantity? [1367]

Mr. Mills—Of your own knowledge.

A. Well, I have seen enough of the well to know of my own knowledge that you could not figure on over twenty-five barrels a day for the well as a regular producer.

By Mr. Lewers—Would that amount of oil in a well of that depth be a profitable venture?

A. Not at the present price of oil, or any price that was ever got in California for that grade of oil.

Q. Now, were there any wells sunk by any other companies anywhere in that township? Do you know a company by the name of the Midway Pacific?

A. Yes; on 32.

By Mr. Mills—The Midway-Pacific, is it?

A. That is the Midway Pacific; Midway Pacific Oil Company.

Q. On 32?

A. 32, of 30-23.

Q. By Mr. Lewers—Did they sink a well?

A. I don't know anything about what they did.

Q. That is, you have no knowledge of their work in there?

A. No.

Q. Is the Elk Hills at the present time, particularly referring to Township 30-23, a producing oil territory?

A. No.

Q. You testified a few moments ago that it was looked upon more favorably perhaps a year ago than it is now. Why do you make that statement?

A. Well, the developments at that time that took place in part of the Midway field and working over that way, and the fact of the Honolulu's levelopment on Section 10, and those that began drilling along other parts of the Elk Hills—their formation was encouraging, and during that stage, until they got down

far enough to test out the territory, why it looked pretty good. [1368] But after they finally tested it out and tested these sands that they expected to be good producing sand, it didn't materialize as they expected.

Q. And is that the reason why you say the opinion is now less favorable than it was?

A. Yes; that is my reason.

Q. Now, in 1900, up to 1905, what was your impression as to where the oil-bearing formations were in the vicinity of McKittrick?

Mr. Mills—That is objected to because the witness has not qualified himself to answer the question, so far, in his testimony.

A. Why, along the hills in back of the town of McKittrick, on Sections 29, 20 and 19, and 30-22 and 13, 30-21, there is an outcrop of oil-sand and oil seepage, and that same cropping extends to the southeast down as far as Sections 3, 31-22; and we like to stay pretty close to those outcrops and seepages.

Q. By Mr. Lewers—Why was that? What was the general belief at that time as to the general extent of the oil territory?

A. Well, the developments up to that time had—the opinion was, in regard to development, up to that time, that if you got away from those seepages, you got out of the oil zone or it was so deep you could not reach it.

Q. What was the general opinion at that time, as far as you know, as to getting out away from the hills

into the flats, toward the Elk Hills, for the purpose of getting oil?

A. Well, that would be regarded as rank "wild-catting".

Q. Now, you have referred to some work and development down in the Midway that was undertaken by one of your companies. Will you state again when it was that you went down into the Midway?

A. In the year 1901. [1369]

Q. And how far from the hills was that location?

A. That well was located right on the edge of the hills that run through Section 11. In fact, we were in little toe-hills yet with that well. But if we had gone much further to the southwest, we would have been out in the flat; and that extension we were on there was looked on as being an extension of the McKittrick field.

Q. Is that the reason you went there?

A. Yes.

Q. Was there any development at that time or any prospecting going on out in the flat in what is now known as the Midway?

A. There was a well being drilled on Section 30, 31-23 by the Transfer Oil Company.

Q. When was that being drilled?

A. About the same time that we were drilling our well on Section 11; 1901 and '02.

Q. Did those people find any oil?

A. No.

Q. How deep did they go?

A. About between 1250 and 1300.

Q. And do you remember any comment being made by any men known to you to be competent and practical oil men, with reference to drilling at those places that you have last mentioned, or anywhere in that Midway flat?

A. Well, there was not much drilling going on in that flat that early. Of course there was some drilling going on there a few years later that I heard several comments on.

Q. When was that that drilling was going on?

A. In the latter part of 1907 and '08.

Q. And what was the comment that you heard on that?

A. Why, that they were blowing in their money—to that effect—they were rank “wild-catters”. They felt sorry for [1370] them out there, wasting their money in that flat.

Q. And by what sort of individuals was that comment made; that is, in what business?

A. Well, I have heard men like Tim Spellacy, who at that time had property up on the 25 Hill, which is south of the Midway district, south of the center of the Midway field. Such men as Spellacy and people that were operating up in there on that hill, they used to look down on us fellows in the flat that had anything, as taking a pretty long chance, playing pretty much of a sucker game.

Q. And who is Tim Spellacy?

A. He is interested in a number of oil companies, oil properties, in the Midway field, Mascot in the

25 Hill, and several other companies; and also in the Coalinga field—a man that has been in the business all his lifetime, I guess.

Q. Is he a practical oil man?

A. Yes.

Q. And do you know whether or not he has been a successful oil man?

A. He has.

Q. What was the general opinion, prior to the discovery of the Honolulu well, as to sinking wells away from the line of the hills; that is, what was the opinion as to prospecting out toward the Elk Hills and out toward the Buena Vista Hills?

A. Well, that was not looked on as good judgment, to get out in there for oil.

Q. What was the belief at that time as to the depths that you would have to go if you got away from the hills?

A. Well, it would be so deep that there was no practical means of getting down deep enough to reach oil.

Q. And what was the general belief at that time amongst oil men that you associated with or that you heard discuss that [1371] country, as to the Elk Hills being a prospective oil territory or not?

A. No; it was not looked on as becoming an oil territory.

Q. And you say that attention of oil men was first really directed to it at what time?

A. When the Honolulu came in; around that

time. That must have been about the latter part of 1908 and the beginning of 1909, to my knowledge.

Q. Were you acquainted with Professor Josiah Owen in his lifetime?

A. Yes.

Q. And where were you acquainted with him? Where did you see him?

A. I met him first in McKittrick.

Q. Did you ever have any conversation with him with reference to sinking wells in any portion of that territory in the vicinity of McKittrick?

A. Yes; I used to meet Mr. Owen pretty often and discuss the possibilities of oil through there.

Q. Did he ever say anything to you with reference to the Elk Hills?

A. No.

Q. What territory did he discuss with you as to its oil possibilities?

A. Well, the territory in around where we were operating, Section 11, 31-22.

Q. And what did he say to you with reference to that?—in substance, if you cannot give his exact language?

A. Section 11, 31-22.

Q. Yes.

Mr. Mills—That is objected to as immaterial:

Q. Where was this, in the first place, that you are talking [1372] about?

Mr. Lewers—Just a moment. You will have your opportunity to cross-examine.

Mr. Mills—I always have an opportunity to cross-examine a witness as to qualifications to state what a man told him, before you ask the question. You have never laid the foundation of the persons present, or the time, or the place where it took place.

Mr. Lewers—I don't have to.

Mr. Mills—I think you do have to.

Mr. Lewers—I am aware of no such rule.

Mr. Mills—Well, that is the rule on testimony of that kind.

Mr. Lewers—I am not seeking to impeach anybody.

Mr. Mills—That does not make any difference, whether you are seeking to impeach or not. I am entitled to know where this conversation took place, and the precise time of it as nearly as the witness can fix it, and who was present.

Q. By Mr. Lewers—You may proceed and state what that conversation was.

Q. By Mr. Mills—Well, I will ask the witness to state first whether anyone was present at the time this conversation took place, and if so, whom.

A. I don't recall of anybody being present.

Q. And whereabouts did it take place?

A. Why, we had several conversations.

Q. Well, that particular one.

A. Well, this one, at Section 11. It was right at the well.

Q. In Section 11?

A. Section 11, 31-22.

Q. And about what date?

A. It was about, I think, the first part of 1902.  
[1373]

Q. That is as nearly as you can fix it?

A. Yes.

Mr. Mills—Very well.

Q. By Mr. Lewers—You may proceed. State what those conversations were.

A. Well, this conversation relative to Section 11, 31-22, he said that he thought we would get oil there if we went deep enough, but he thought we ought to have drilled on the other side of our section. We were drilling at the southeast corner, and he liked it better a little back on the hills toward McKittrick. This strike, as he figured it, went sort of diagonally across the section.

Q. Did he explain why he thought it was better to drill on the other corner of the section toward the hills?

A. Well, we were getting out on the edge of the oil strata there where we were drilling.

Q. Now, did you have any other conversations with him with reference to any other wells?

A. Yes. I talked to him regarding a well that we were drilling on Section 10.

Q. 30-21.

A. 30-21.

Q. What did he say about that?

Mr. Mills—That is objected to as immaterial to any of the issues of this case.

A. Why, he stated that I should not have abandoned that well when I did; if I had gone two or three hundred feet deeper, I would have gotten oil.

Q. By Mr. Lewers—Well, do you know whether anybody ever did drill on that place any deeper than you did?

A. Yes; there was a well drilled very close to that location, on Section 3, adjoining section, on the same strike; [1374] drilled to about 2600 feet.

Q. When was that done?

A. That was started in the latter part of 1908 and I think finished up in 1909.

Q. And by whom was that well drilled?

A. The Associated Oil Company.

Q. Did they get anything?

A. No.

Q. Were there any other wells drilled in that vicinity?

A. Yes; there were other wells drilled all around there.

Q. Did any of them produce anything?

A. There was no producing wells brought in beyond the East Puente's holdings on Section 11, 30-21; nothing brought in that was profitable to produce, to operate.

Q. Then, up to the present time, has there been any oil produced from that vicinity where you sank your well in Section 10, 30-21?

Mr. Mills—That is objected to as wholly immaterial, it appearing that the land is some eight or ten

miles away from the lands in controversy in the jammed-up eastern flank of the Temblor Range?

Q. By Mr. Lewers—Answer the question, please. Read it. (Last question read by the Special Examiner.)

A. No.

Q. At the present time, Mr. Miley, is there any oil being produced from any portion of Township 30-23, to your knowledge?

A. No; none being produced now.

Q. And where is the nearest point to that from which oil is now being produced?

A. Well, to the nearest point would be Section 19, 31-23, and Section 13, 31-22.

Q. And when were those wells sunk, if you know?  
[1375]

A. In section 19, 31-23, the first producer was brought in—I think they actually got to producing in 1910. They were in oil there, they knew they had oil, in 1909, but I don't think they got the production out of it until 1910.

Q. Was there any oil being produced there prior to 1905?

A. No.

Q. Now, prior to January 1st, 1905, as nearly as you can fix it from your knowledge of the country, where was the nearest place where oil was being produced with reference to the Township 30-23?

A. The McKittrick, in Section 29, 30-22.

Mr. Lewers—You may examine.

## CROSS-EXAMINATION

OF

E. J. MILEY.

By Mr. Mills:

Q. Mr. Miley, you have testified here to numerous wells which were abandoned because of failure to strike oil or for one cause or another. You have not, however, testified to any producing wells in the McKittrick district. Was it your desire to have the impression go upon the record in this case that you want to present a doleful picture of the McKittrick field as an oil business?

A. No sir; not at all.

Q. You recognize, do you not, notwithstanding the catalog of misfortune which you have related here this morning, that the McKittrick is regarded by oil men as the best field in the world, don't you, by those who are competent to know what they are talking about? Is not that true?

A. Well, I can't say that, I can't say that I do know that.

Q. Well, you do know that as a fact, don't you?

A. That it is the best field in the world? [1376]

Q. Yes; the best field in the world.

A. The McKittrick?

Q. Yes.

A. In what way the best?

Q. In every way as an oil producing field. I speak of the McKittrick field in so far as you have led us in your peregrinations around that field from Midway to 31-22.

A. I can't say that I know that the McKittrick is the best field in the world.

Q. Well, don't you know that competent geologists have so designated that field—as the most wonderful oil field that has ever been discovered in the history of the world?

A. Well, I would not go very much on geologists' reports of those fields, because they cannot tell you where the oil is.

Q. They can't tell you?

A. No sir.

Q. You are not a geologist, evidently?

A. Not at all; but I have been practical enough in the business to know—

Q. Confine yourself, if you can, to a response specific to my question.

Mr. Lewers—Finish your answer.

A. (Continuing)—to know that you can only determine where the oil is by drilling.

Q. By Mr. Mills—Now, did I ask you anything about geologists at all?

A. Yes; you asked—

Q. I spoke about competent oil men, didn't I? Oil men. Didn't I use those words?

A. No; you said geologists, too.

Q. Well, I spoke of geologists publishing bulletins, or their published reports; but I am speaking now of competent oil [1377] men, practical oil men. Now, will you answer my question?

Mr. Lewers—What is your question?

Mr. Mills—The witness probably knows. I am not asking you the question. Just read the question.

(Question read by the Special Examiner, as follows: "You recognize, do you not, notwithstanding the catalog of misfortunes which you have related here this morning, that the McKittrick is regarded by oil men as the best field in the world, don't you, by those who are competent to know what they are talking about? Is not that true?")

A. Well, I can't say that I know that it is regarded as the best field in the world. I know that the wells there are cheap to drill on the oil zone there that we have defined by actual drilling, and that they are good producers.

Q. Well, what would you characterize that field as in comparison with other successful fields that you know of, taking the duration of time for which it has been a producing field, the quantity of oil that is being produced, the number of wells now down in that field, from 30-21 to Midway.

A. Section 11, 30-21, you say?

Q. Yes; from north of McKittrick down to Midway.

A. Why, I consider it a very profitable field.

Q. Well, how does it compare, in your mind, with other fields that you have known in your lifetime as an oil man?

A. It is classed up as a very good field, and—

Q. Do you know of any better field, in your own experience, than that field, which you have con-

demned here by reciting the facts that you did this morning?

A. Well, I didn't altogether condemn the field. I condemned the—The McKittrick field, like any field, you have to do a lot of prospecting.

Q. You don't want it to appear you condemned it? [1378]

A. I didn't condemn the field.

Q. You didn't want to destroy the hopes of those oil men who invested money there, but you simply wanted to recount in this record some of the abandoned wells? Is that it.

A. No.

Q. Now, isn't it a fact, to be fair and frank on the record here, that you could, if you were asked the question, fairly recite a great number of successful wells in the McKittrick field?

A. Why, I have some there myself.

Q. You didn't tell about any of those, did you, this morning, in direct examination?

Mr. Lewers—I object to this manner of examination as not being proper cross-examination, as the attention of the witness was directed to certain outlying portions of territory as indicating the development and what development had taken place there, and there was no attempt to go into the question of what was in the McKittrick field proper, whether it was successful or unsuccessful, and that it is an unfair assumption and placing the witness in a false position for counsel to assume that.

Mr. Mills—I want to treat the witness as fairly as I may under the circumstances. I think he tries to be fair in this examination.

Q. You have no complaint to make of my examination, have you?

A. No sir.

Q. We are perfectly good friends, aren't we?

A. Started out so.

Mr. Mills—Certainly. Don't be over-zealous. Mr. Miley will take care of himself.

Q. Now, when you refer to Mr. Spellacy referring to you and other associates of yours who were endeavoring to bring in a well upon what you call the flat, or beyond the relation of the range, [1379] as "suckers", did you hear Mr. Spellacy call you a sucker at that time?

A. Yes; I heard Mr. Spellacy express that to me.

Q. That you were a sucker?

A. Yes.

Q. And that was because you went down on the flat, was it, or was it because you were unsuccessful?

A. No; it was because we were drilling in a place where in his judgment, he thought we would never get any oil.

Q. Now, some very fine wells have been produced, however, on the flats, haven't they?

A. Yes sir: There have been wells, in the last few years, brought in on the flats.

Q. And who appears now to be the "sucker"?

A. Of course the tables were changed.

Q. So that, if you had kept on with your operations and drilled further, you would have proved that the allegation was wrong and the "allegator" ought to be defied?

A. We have got some oil out in there now, you know, that we have got in the last few years.

Q. You say you were acquainted with Mr. Owen?

A. Yes.

Q. What was Mr. Owen at that time? What position did he hold?

A. Well, he was connected with the Southern Pacific in the geological department.

Q. And was he operating in the field there for the Southern Pacific Company or any of its allied companies? I mean by "operating", was he working there as a geologist?

A. He came there first to make a report on that McKittrick field there, the outlying country.

Q. Now, I don't know whether I made myself clear or [1380] whether you don't make yourself clear. Read the question. (Preceding question read by the Special Examiner.)

A. Yes.

Q. For the Southern Pacific Company?

A. Yes sir.

Q. How long a time did you know him, Mr. Miley?

A. Well, I knew him from the time I first met him there in McKittrick up until the time he died. I used to meet him from time to time.

Q. And you met him about what year?

A. That was about 1902.

Q. Do you know when he died?

A. Yes. I think it was about two years ago.

Q. So that you knew him during the whole time that he was working as a geologist for the company in that field?

A. Yes.

Q. The Southern Pacific Company had some confidence in his judgment, did they not, so far as you know?

A. Why, I don't know anything about it, except that he was working for them during that period.

Q. You had the impression, however, that they had confidence in his judgment, didn't you?

A. Yes; certainly.

Q. Were you acquainted with an associate of Mr. Owens by the name of E. T. Dumble, now the chief consulting geologist of the Southern Pacific Company?

A. I just knew him casually. I met him a few times.

Q. Have you seen him out in the field there, the McKittrick field?

A. Yes.

Q. When did you first see him in the McKittrick field?

A. Well, I don't know. I couldn't say as to that.  
[1381]

Q. About the time you saw Mr. Owen the first time?

A. I don't think I saw him as early as that to know him.

Q. Could you tell somewhere near the time that you first saw Mr. Dumble in or around McKittrick?

A. I don't think that I met Mr. Dumble to know him until about 1908.

Q. You don't know, then, whether he was in the field before that time or not?

A. I couldn't say to that; no.

Q. Did you know a man by the name of J. B. Treadwell?

A. Yes.

Q. What was he doing up there at the time you knew him?

A. Why, he was representing the Southern Pacific Oil interests.

Q. And when did you first meet him, Mr. Miley?

A. 1900.

Q. What point was he operating from? Where did he have his office?

A. I am not sure but what he had his main office over in the Kern River field, because that is where they were operating very extensively.

Q. Did you see him over around McKittrick a great deal?

A. Oh, yes.

Q. What was he doing when you saw him?

A. He was looking after their oil developments, interests, there.

Q. Do you know whether he at that time had any

lands in his own name, in the name of J. B. Treadwell, around there?

A. Yes.

Q. You have seen his name there on maps?

A. Yes.

Q. Did you know then, or do you know now, that he was [1382] operating in lands for his principal, the Southern Pacific Company, under the guise of the use of moneys of his own?

Mr. Lewers—I object to this line of examination, on the ground that it is not cross-examination of anything that was brought ou in direct.

A. No.

Q. By Mr. Mills—Now, did you have any confidence in the judgment of Mr. Treadwell as a practical oil geologist?

A. Why, I didn't know very much about his knowledge as a practical oil man, or a geologist, so far as that is concerned.

Q. Have you any confidence in the judgment of Mr. E. T. Dumble as an oil man and geologist?

A. I don't know anything about Mr. Dumble.

Q. Just barely met him? That is what you mean?

A. Yes.

Q. Did you ever come in contact with either Mr. Jewett or Mr. Blodgett, of the firm of Jewett & Blodgett, while you were there, in the early days?

A. Yes.

Q. Did you know Mr. W. E. Youle, another practical oil man, who has been in that field since 1889?

A. Yes; I knew Mr. Youle.

Q. Was Mr. Youle regarded as a good practical oil man?

A. Why, I cant' say that he was.

A. Did you so regard him?

A. Why, I didn't know enough about him to pass an opinion, really.

Q. You didn't know as a matter of history that Mr. Youle had gone into that field in the earliest time of its development and that upon his judgment millions of dollars of money were invested down on those flats? Did you know that as an historical fact?

A. I know that he didn't spend any millions of dollars [1383] down on the flats.

Q. I didn't say that he spent millions of dollars, but that upon his judgment millions of doliars were spent.

A. No; I can't say that I did. His operations were confined up to the hills there in the outcrops along Sunset.

Q. You know, however, that he is regarded by oil men as a very keen, practical man of sound judgment in oil matters, don't you?

A. I can't say that I do.

Q. Have you any reason to feel differently towards him yourself?

A. Why, yes; I know that during his operations with Jewett and Blodgett in Sunset, during those early days there, he spent their money like a drunken sailor—which he was, most of the time.

Q. You say Mr. Youle was a drunken sailor most of the time?

A. Well, he used to keep pretty well loaded up with whiskey during the whole time of his operations out there in Sunset in the early days. That is his reputatiton all over the field.

Q. Did you know, as a fact, that Mr. Youle was a man of over fifty years' experience in the oil business in this country and that today he is retired, here, with a vast fortune which he has accumulated in practical oil work?

A. I don't know how much he has as a fortune.

Q. Have you ever had any trouble with Mr. Youle personally?

A. No.

Q. At page 1048 of the reporter's transcript in this case, Mr. W. E. Youle stated as follows: "I say a geologist will say of those hills toward the Elk Hills and that whole country 'there is a good oil territory,' but as to the depth I don't see how they can tell." Do you agree or disagree with that statement of Mr. Youle? [1384]

A. What year did he make that statement?

Q. That statement was made as of a time prior to January 1st, 1905.

Mr. Lewers—But the statement was made this year.

A. Yes; but I mean he referred to it as in what year?

Q. By Mr. Mills—Prior to January 1st, 1905.

A. Yes. Well, a man—I don't see where he had any foundation for making such a statement.

Q. The question was whether you agree with the statement.

A. I don't agree with it.

Q. You clash with distinguished authority, then. At page 1028 of the transcript, Mr. Youle also testified: "well, I will make the statement broad, and I will defy anyone to prove to the contrary: You show me an oil seepage and with proper development I will show you an oil field; and if you can find any instance it is not so, it is something I don't know of." Do you agree with that statement?

A. I don't agree with it.

Q. Do you know of any oil seeps in what is known as the Elk Hills?

A. I know of an outcrop over toward the Honolulu well, right where they drilled the well, on Section 10, That is all I know of.

Q. In 32-24?

A. 32-24. It is really a gas "blow-out" there on some outcropping.

Q. How extensive is it, Mr. Miley? You have visited the spot, I suppose?

A. Yes.

Q. How extensive is the evidence of the gas blow-out?

A. Oh, it just covers over, I would say, an acre there, probably, or so. [1385]

Q. Is there any evidence there of any waste of oil?

A. No. That is, it looks like it might have come

out there at some early day and dried up, maybe—gas blow-out.

Q. You have been over that field pretty extensively, haven't you, all around there?

A. Yes.

Q. In the Elk Hills, you say, half a dozen times?

A. Yes.

Q. Do you know of an oil seepage or gas blow-out in Section 32 of 30-24 in the Elk Hills?

A. No; I don't.

Q. Did you ever hear of it?

A. Why, I have heard that there was such a seep there, but I have never seen it—exposure.

Q. Do you know of any oil sands—What was your answer to that?

A. I said I have not seen it but I have heard there was such a one there.

Q. When did you first hear that?

A. I don't know. I have heard it spoken of different times.

Q. Well, can you remember about the first time you heard of it?

A. No; I cannot.

Q. Was it as early as 1901?

A. Why, it was around somewhere in that neighborhood, of 1902 or so; in there; 1901.

Q. Did you visit the oil seep yourself?

A. No; I never saw it.

Q. How close did you ever get to that oil seep in 32 when you went into the Elk Hills?

A. Well, I have been on Section 30, and I have been on [1386] Section 34, and 26, 22, and 20, and 24, to my knowledge, because I know those different wells.

Q. That is in 30-23?

A. 30-23.

Q. When did you first visit those sections you have described?

A. Well, I have driven over that section as early as 1901 or '02.

Q. And is that the only place in the Elk Hills that you have visited?

A. No; I have been over the whole range.

Q. At different times?

A. At different times.

Q. Do you know of any dry oil sands in Sections 18, 35 and 36, in Township 29-21, east?

A. No. What is that again?

Q. That is in Sections 18, 35 and 36 in 29— 21 east.

A. 21-29?

Q. Yes?

A. Oh, yes; sure.

Q. Do you know about those oil sands up there?

A. Yes; that is McKittrick; sure I know about that.

Q. That is McKittrick? 29-21 is McKittrick? Do you mean the McKittrick field or McKittrick—

A. Well, 29-21, you said, in Section—

Q. In Section 18, 35 and 26.

A. Wait a minute, now. 29-21.

Q. 18,35 and 36.

A. I don't know anything about 18. I know there is some—35, 18? I don't think that amounts to much in there. There is some little exposures in there.

Q. Well, you know of some oil sands there? [1387]

A. There is some little indications there, yes.

Q. When did you first know about those?

A. I don't know about 18. I know along in 35. I don't know the exact section, but I know along in there there is some exposures.

O. I say, when did you first know that?

A. Why, along in 1900, 1901.

Q. Now, do you know whether, in the immediate vicinity of McKittrick—that is, in certain portions of 30-22—that there are large showings of liquid asphaltum oozing from the ground, at any time after you came into the country?

A. Yes.

Q. Do you know of an oil sand cropping in Section 5 of 30-22?

A. No.

Q. Are you acquainted with the spot where the railroad running into McKittrick through Section 14 in 30-22 intersects the axis of the hills there?

A. Section 14?

Q. Yes; where the railroad comes in.

A. Yes.

Q. Of 30-22. Now, you have been in there yourself, haven't you?

A. Yes sir.

Q. Do you know of any cropping of oil-sands or indication of waste of oil there?

A. I have heard them speak of that; but there is nothing there I would consider as any oil-sand or any seepage of oil.

Q. You just heard them talk about it?

A. Heard them talk about it and I have seen it, but I say I don't consider that a cropping in 14.

Q. You have seen what? The place, or seen the oil sands? [1388]

A. Seen the place and what others have talked of regarding this place as being oil-sand.

Q. And you say it is not an oil-sand?

A. I don't consider that an oil-sand, no, in place.

Q. In place?

A. In place; yes.

Q. What do you mean? That somebody came there and dumped some there?

A. Sure, the stuff flows from the hills there and banks up.

Q. What hills?

A. From McKittrick. The railroad goes up the ravine.

Q. Didn't you see a cropping of oil-sand where the hill was cut into there?

A. Yes, but I don't consider that oil-sand in place. That has washed down and eroded down from the hill a little higher back.

Q. I am speaking of the east bank where it goes

through. The railroad cuts through there in a north and southerly direction, doesn't it?

A. Yes.

Q. Now, on the east bank of the hill there?

A. Yes; I have seen it.

Q. Does that from the east bank, do you claim, come from over here, or from there?

A. From the east bank; but I don't consider that an oil-sand cropping.

Q. Now, if there is an oil-sand cropping out of the east bank of that hill, where does it come from?

A. Well, it is porblematical, in my opinion, how it got there, if there is any there.

Q. If Mr. Owen, whom you spoke of having conversations with, stated that he found oil-sands cropping there, would you believe [1389] him?

A. Why, if he said there were oil-sands cropping there, that it would be his opinion as to there being oil-sands there, why, I would have some faith in them being there; yes.

Q. Do you know Colon F. Whittier?

A. Yes.

Q. Would you believe him if he stated he found oil-sands there?

A. Well, I don't know whether I would bank very much on his opinion about there being oil-sand there.

Q. Do you know Captain Frank Barrett?

A. No; I don't know him. I know of him, but I don't know him.

Q. You don't know enough about him to form any opinion as to him or his character?

A. No.

Q. You are able, from your experience as an oil man, to recognize oil-sands, are you not, when you see them?

A. Why, if they have got oil in them, yes.

Q. Well, if it showed the evidence of having had oil in them, would you know it?

A. Yes; if the sands were stained, that would be evidence enough to me that they had been in contact with oil.

Q. You have been all over the Elk Hills, you say, over the whole field? Did you so state?

A. I have been generally over the field; yes.

Q. Now, why was it that you never discovered any oil-sands in 32, if you were all over that field?

A. Well, I might not have gotten in there at that particular point.

Q. The reason you assign in that case is because you were not in there? [1390]

A. I don't know that I was on that particular spot. If I was, I don't recall seeing any oil sand there? Perhaps I might not have been there, if there was any there.

Q. Do you know of any oil cropping in 31-21 on Section 14?

A. Why, I know there is some oil-sand croppings over in that country.

Q. In that township, you mean?

A. I know there is some croppings in Township 31-21, but I don't know exactly what sections they are on.

Q. Now, do you know of an oil cropping or oil seepage in 31-22 on Section 22?

A. No; I don't know of any seepage there.

Q. Do you know of a seepage on Section 34 of the same township?

A. No; I don't.

Q. Do you know of any oil seepages in that township?

A. I don't know of any seepages. I know there is an exposure up there, but I have never seen any oil seeping out?

Q. What do you mean by "exposure"?

A. I mean the sand that crops out in there, that we try to bank on it, but I never saw any live seepages in that country.

Q. Well, you have seen oil-sands, then?

A. Well, I couldn't say they were oil-sands. I have seen sand that crops in there that we tried to follow.

Q. Why do you try to follow them?

A. Well, they crop up there in the hills and we figure that they might have contained oil, and if they did, why, getting them further down on the dip they would contain oil now.

Q. Do you know of an oil-sand in Township 31-24 in Section 1, about half a mile east of a point on Section 29? [1391]

A. The only one I know is the one right next to the —No; I don't know that one.

Q. Well, do you know one that you have already spoken of on Section 9—was it?

A. It is near the Honolulu well.

Q. What section is that on?

A. The Honolulu well was on 10, but that is on the other township, 30, 32-24, that I know of. That was a gas blow-out.

Q. In 32-24?

A. In 32-24, yes. I don't know of the one you refer to in Township 31-24.

Q. Do you know of any seepages or oil-sands in 32-22 in Sections 1 and 2?

A. I know of the sand croppings up in there; yes.

Q. Do you know of any oil-sands cropping in Section 6 of the same township?

A. No. You mean that is over in the next township?

Q. No; in the same township.

A. That would be six miles away.

Q. Do you know of any oil seepages in Sections 21, 22 and 26 of the same township?

A. No.

Q. What township are you looking at?

A. 32-22.

Q. Yes; that is right. Have you referred to 32-24 of Section 11 in your testimony? Is that the place you spoke of as near the Honolulu well?

A. No; that was in Section 10 of 32-24.

Q. Do you know of a gas blow-out or oil-sand cropping in Section 11 of 32-24?

A. Well, that cropping I referred to there. I

don't know whether that is in 11 or not; but I know it is in close proximity [1392] to the Honolulu well.

Q. And which direction from the well is it?

A. It would be kind of east, I think, or northeast.

Q. Now, can you find Township 11, Range 24, on that map? That is down in the San Bernardino meridian.

A. What section?

Q. Section 2.

A. Yes.

Q. Do you know of a seepage just south of the standard line there in that section?

A. Yes; I know the seepages along in there. That is considered the Sunset district.

Q. Do you know of any pitch springs that were ever discovered down in there before your time?

A. I know that there was asphaltum used to bubble out there.

Q. Now, generally, along the line extending between McKittrick and Sunset, you know of blow-outs and asphaltum oil in many other places than those which have been mentioned?

A. Why, to my knowledge there is no outcrops excepting what is along in the Sunset district and the McKittrick district. I don't know of any real live outcrops between those two fields.

Q. Do you know of any croppings of any kind that would be regarded as oil-sands between the two fields along the line of the contact with the range?

A. None other than I have mentioned.

Whereupon the further taking of testimony herein was adjourned until 2 o'clock P. M.

On Thursday, December 5, 1912, at 2 o'clock P. M., the further taking of testimony herein was resumed pursuant to the adjournment: Willis N. Mills, Special Assistant Attorney-General, appearing on behalf of the plaintiff; and Charles R. Lewers, Esq., [1393] appearing on behalf of the defendants.

Whereupon, E. J. MILEY was recalled and cross-examination resumed as follows:

Q. Mr. Miley, you first went into the oil business in 1900? Is that right?

A. Yes sir.

Q. The spring of 1900?

A. Yes sir.

Q. And you were in the oil business continuously from that time to now, with the exception of two years, 1907 and '08?

A. Yes sir—1906 and '07.

Q. In 1906 and '07, you were not active in the business?

A. No sir.

Q. From such experience as you have had in the McKittrick Midway field, you have now come to the conclusion, have you not, as an oil man, that the best wells in that field are sunk and produced down away from the line of contact, on the flat? Is that true?

A. No; not altogether so.

Q. Well, the largest producers are down on the flat?

A. The wells that have come in and produced the largest have been down on the contact; yes sir.

Q. Where are the majority of the productive wells in that field now? On the flat or on the flank of the hill?

A. Of McKittrick?

Q. McKittrick or Midway field. The field you described this morning.

A. In the McKittrick they are up on the—

Q. Speaking of the field now particularly.

Mr. Lewers—Allow the witness to finish his answer.

[1394]

Mr. Mills—I asked the question as to the whole field.

Mr. Lewers—Perhaps it cannot be answered in the whole field the same way. Allow him to finish his answer.

A. There is a distinction. In the McKittrick is a little different proposition than in the Midway.

Q. What do you say as to the McKittrick.

A. In the McKittrick the principal producing wells there are on the ridge on an overturn there, and they have some wells out on the flat of the McKittrick.

Q. How are the wells on the flats compared with the others?

A. That is hardly figured—that hasn't anything to do with the McKittrick. That is another proposition. There is a fold in there. But as far as the Midway is concerned, they have brought in some very

good wells right on the top. For instance, the American Oil Fields on Section 36, 31-22, brought in a well at about 900 feet that flowed 25,000 barrels a day for quite a while. One of the biggest wells brought in was the American Oil Fields in Section 36.

Q. When was that?

A. I think that was in 1910.

Q. And how long did it flow at that rate?

A. I might be mistaken on that one here. No, it was 1910, I think. How long did it flow?

Q. Yes—at that rate of 25,000 barrels a day.

A. At 25,000 barrels a day, it did not flow any great while.

Q. Well, how long?

A. Well, it must have flowed twenty or twenty-five thousand for two or three months, and then the well gradually went down. Of course, we have some wells further down at the contact down in the Midway field, but none of them that really stood up or averaged much better than that, with the exception [1395] of the Lake View.

Q. Well, was the Lake View on the flat?

A. Well, that would be sort of in the toe hills.

Q. Lake View is on Fractional Section 25?

A. Yes sir.

Q. And that well for awhile flowed as high as 80,000 or 90,000 barrels a day?

A. I understood that it averaged 40,000 or 50,000 for quite awhile.

Q. It was brought in in the middle of March and flowed continuously with varying amount of production until sometime in November or December of that year?

A. Until Decoration Day, whatever that is—not Decoration Day. I mean Admission Day. In September. I remember I was at the well on the morning and it was a holiday, and it quit.

Q. What do you say as to the difference by comparison between the productiveness of wells on the flat and those on the line of contact down near Midway?

A. Of course, if your wells are out on the flat, on the same contact—for instance, you have more drain or more pressure on your wells and you catch the oil-sand deeper in the well and catch it on that same contact, and you would expect to get a more long-lived well on the deeper well.

Q. Now, was it on the Midway where you were drilling down on the flat when Mr. Spellacy thought you were making a mistake?

A. That was in the basin of the Midway; that was what they looked on as the flats; yes.

Q. And you now have come to the conclusion that that was the proper thing to do, notwithstanding the criticism made by some of the people on the hill there?

A. As far as that Midway is concerned, yes. That has been demonstrated. [1396]

Q. Now, if you knew that a geologist, as early as

1900 or 1901, had so advised a company that he was working for to cease drilling in the line of contact and come down on the flat, would you regard that man as a man of good judgment, in your opinion?

A. Well, if he knew that the contact extended out there, of course—the geologist cannot see into the ground; he don't know those things. You have to determine by actual drilling whether the contact extended out that far.

Q. Do you know whether Jewett & Blodget in 1900 were engaged in the asphalt business?

A. Yes sir.

Q. And that they had a number of small wells in the Sunset Midway fields along the line of contact—shallow wells—for the purpose of getting oil to flux their asphaltum?

A. In what section?

Q. Along the Midway and Sunset field there.

A. I know that Jewett & Blodget had wells in Sunset and they were extracting this heavy stuff and turning it into asphaltum. And I also know that they attempted to extract some heavy oil or asphaltum at McKittrick, and hauled oil from Los Angeles up there to use for a flux. They did not have any oil in that district at that time.

Q. At that time Jewett & Blodget were principally in the business of extracting and mining asphalt for the market?

A. Yes sir.

Q. They were not going out to get liquid oil to market so far as you know?

A. No; they were not in the fuel or marketing business; they were in the asphalt business.

Q. Mr. Youle testified at page 1037 of the reporter's record, as follows: "Q—In 1890 were any wells sunk under you direction? A—We commenced right away and started two drilling [1397] rigs right away. Q—And were those wells successfully discovering oil? A—We found oil in every one of the first three. The first three wells that we drilled on Section 28 struck oil. Q—That is, at Sunset? A—Yes. Q—Now, how many wells were sunk there altogether under your direction or under your advice? A—Oh, there was probably fifty. Q—And that had been a commercially successful territory? A—Why, no. It was not, Blodget, Beale, the Company, wanted me to drill those shallow wells and get a thick heavy oil, and asphalt was worth then \$30 a ton in New York, and produced what they called liquid maltha and let the light oil alone. If I told them once I told them a hundred times we could go out there and get more oil in one well than they could out of fifty; because I knew it was dipping down there and there was no question about it, it was no guess-work at all. But they wanted this heavy oil, and we drilled new wells out a little bit in front, and it was too light for any use for asphalt, but they didn't want anything but the asphalt business and they wanted this liquid maltha for the purpose of flexing the hard asphalt; and that is why there was so many of these small wells directly in the out-crop. Not from my advice. I would have

given anything in the world to have had them allow me to go down there and drill a well where I ought to. It just seemed as though I was out of my latitude there. I knew where I ought to go, but they wouldn't allow it. They wanted these shallow wells." Do you regard the advice which Mr. Youle gave to Jewett & Blodget at that time as good advice?

Mr. Lewers—Objected to as not cross-examination of any matter brought out in direct examination, and it appears that the very question asked was long prior to the time when this witness testified to having been in that territory at all.

A. As the thing has developed now, it was darned good advice. [1398]

Q. By Mr. Mills—Mr. Youle testified that in his experience he had drilled 176 producing wells, averaging \$20,000 a piece—

Mr. Lewers—In cost.

Mr. Mills—which would be something over \$3,000,000, and I believe he further testified that at no time did he drill an unsuccessful well where he started it and where he was permitted to place the wells. Taken in connection with his vast experience of over fifty years in the oil business in this country, in Mexico and in Canada, and his pioneer work in the Midway-McKittrick field, and the results of the predictions made by Mr. Youle since you have gone into the oil business, would you say that he had been a successful oil man?

Mr. Lewers—To which we object on the ground

that the question is not cross-examination of any matter brought out in direct examination of this witness. On the further ground that the question does not recite the entire record of all the testimony concerning Mr. Youle, and is an attempt on cross-examination to bring in the qualification of a witness offered on behalf of the government, without bringing in all the information on which any such judgment can be passed. On the further ground, that it is a matter for the court to determine, and not for the witness.

A. Well, that is a pretty hard question to answer just from that question.

Q. By Mr. Mills—Do you think it is difficult to answer that question?

A. He may have drilled all these wells and it is a question of what the returns that came from them amounted to.

Q. I think I have stated that they were successful and producing wells—productive wells.

A. I am familiar with the wells that he drilled in the Midway and Sunset field, and I cannot say that those wells have turned out as being a howling success. [1399]

Q. You are not inclined to give Mr. Youle any credit for being a successful oil man?

A. Yes, sir; I am. I am not prejudiced at all. I am simply stating things as I know them.

Q. What reason have you for characterizing Mr. Youle the way you did this morning, and refusing to give Mr. Youle credit for what he has actually done in the way of making a success in the oil business?

A. Why, I am just stating conditions as I know them to exist in that country.

Q. Did you ever have any trouble with Mr. Youle?

A. None at all. I know that Jewett and Blodgett were the pioneers of that Kern county field, and they spent thousands and thousands of dollars up there and spent it under Mr. Youle's advice and under his management, and Jewett and Blodgett never made any money out of the oil business.

Q. Don't you know as a matter of fact that Jewett and Blodgett never put down a well on the advice of Mr. Youle, but contrary to his advice?

A. I don't know that.

Q. Why do you make the statement that they spent the money on his advice, if you don't know it to be a fact?

A. Well, all I know is that he was running the business there.

Q. You know he was actually in charge of the drilling operations, don't you?

A. I know he had charge of the drilling operations.

Q. But you don't know as a matter of fact, as both he and Mr. Blodgett testified, that these wells were put down under the direction of Jewett & Blodgett? That is, the place was marked? Now, why do you say that Mr. Youle has not been successful because these wells were put down under his direction? [1400]

Mr. Lewers—To which I object on the ground that

it is a mis-statement of the testimony of the witness Blodget. He testified, on the contrary, that Youle was the man they had in charge, on whose advice they relied.

Q. By Mr. Mills—I am referring now to the Midway field.

A. Of course, there is no question that Mr. Youle is a man of experience in the oil business. I don't say that he is not. He has had a lot of experience and undoubtedly he has got some very good judgment.

Q. He probably was in the oil business before you were born?

A. Sure he was, if he was in that long himself.

Q. And you don't want to bank your experience as an oil man against the experience of Mr. Youle, do you?

A. I bank my experience—yes; I would take my own judgment before I would take his, if I wanted to spend some of my money.

Q. You think you know more about the oil business than Mr. Youle?

A. I don't say that.

Q. Did you ever have any trouble with Jewett & Blodget at all?

A. No sir.

Q. Are your relations with them friendly now?

Mr. Lewers—Mr. Jewett is dead, is he not?

A. The old gentleman is dead; yes sir.

Q. By Mr. Mills—When did you first ascertain, Mr. Miley, that you were to be called as a witness

here? When were you first interviewed as to what you would testify to in this case by any agent of the Southern Pacific Railroad Company?

A. I don't know as I had any particular interview. I met the counsel this morning. [1401]

Q. Did you ever talk with the agent of the Southern Pacific Company before you met Mr. Lewers this morning?

A. I met this gentleman one day—

Q. By Mr. Lewers—Mr. Luke?

A. Mr. Luke—perhaps a month or six weeks ago, or maybe longer than that.

Q. By Mr. Mills—Did you know what you were wanted to testify to?

A. No.

Q. Did you have any idea what it was about?

A. It was in connection with the character of this land over in there as to what it was fit for as oil land.

Q. Have you any relations in a business way, outside of becoming an occasional passenger on the trains with the Southern Pacific or the Southern Pacific Railroad Company or the Southern Pacific Company?

A. No.

Q. Have you any business relations whatever with the Associated Oil Company?

A. Yes.

Q. Of what nature are your relations?

A. We are selling them oil and doing business with them.

Q. Who is the superintendent of that company—the Associated Oil Company?

A. In the Midway field?

Q. Yes.

A. L. J. King.

Q. Is Mr. King a particular friend of yours?

A. Yes sir; he is a friend of mine.

Q. You are quite intimate, aren't you?

A. Yes sir.

Q. You know, don't you, Mr. Miley, that the Associated Oil [1402] Company is owned by the Southern Pacific Company? That is, by a majority of the stock in it?

A. I understand that is the case.

Q. Have you ever discussed with Mr. King the nature and the character of the testimony you were to give here in this suit?

A. No sir.

Q. Did you ever discuss with him the different wells that you have testified about this morning over in the Elk Hills?

A. I have talked with him about how they are getting along with these wells; yes sir.

Q. When did you begin to talk with him about it?

A. As soon as they began to drill over there.

Q. Did you arrive here this morning?

A. Yesterday morning.

Q. When did you first see Mr. Lewers?

A. This morning, about fifteen minutes or so before I arrived here.

Q. Whom did you talk with yesterday about this case?

A. Mr. Luke informed me yesterday that I wouldn't be wanted here. He didn't say anything about the case at all, but he informed me in the morning that I wouldn't be wanted here, and he called me up on the telephone about noon and said they didn't want me till this morning, and maybe not then, and I said, "Try and get me on today, because I want to get away."

Q. You arrived yesterday morning?

A. Yes sir.

Q. And you have been accessible all the time for the purpose of this case since you arrived here?

A. Yes sir.

Q. Do you know enough about the Associated Oil Company's business to know whether they use standard tools or a rotary [1403] rig on the wells you have testified about this morning on the Elk Hills?

A. Yes sir.

Q. What do they use?

A. They use rotary rigs.

Q. It is a fact, is it not, Mr.—

A. They may have had standard part of the time. They had rotary, but they may have changed over to standard.

Q. Isn't it a fact that on the rotary rig they use cement—liquid cement?

A. With a rotary? They pump liquid cement. They get into a formation that is cavy. They pump

in a sticky, 'dobe mud to plaster up the walls to keep the formation from caving.

Q. That has a tendency to mask the true formation?

A. Yes, but a person who is attending to his business on the rotary takes his samples all the time and keeps a good line on the formation they are going through.

Q. It is possible, however, that the drill going through the oil sand, and their using this liquid mud and pumping it in, it might pass through the oil sand and the driller not know it?

A. Yes sir; that has been done with the standard tools as well as the rotary.

Q. I am asking you about the rotary.

A. It is possible.

Q. Do you know whether or not in any case in the Elk Hills where a rotary was used that the driller actually passed through oil sand and went for several hundred feet beyond it without knowing it?

A. In the Elk Hills?

Q. Yes.

A. No; I don't know of any case like that.

Q. Do you know of a case over in Section 11, Township 31- [1404] 24—in the Buena Vista Hills—opposite the Honolulu, where the drillers went through with the rotaty rig to oil sand and didn't know it and afterwards pulled back and found the oil?

A. I don't know of that particular case.

Q. The K. T. & O. well on 32-24?

A. I am not familiar with that instance.

Q. Do you know whether the same thing happened on Section 32 in Township 31, South, Range 23 East, to the Associated Oil Company, where the geologist of the company insisted that the drillers had gone through the oil sand and made them pull back and developed in one instance a 600-barrel well and in another instance a 200-barrel well where the drillers swore there was no oil sand?

A. I don't know that the geologist made them pull back. I know they were testing out that territory and did pull back and wash out the sand and brought this in after they had drilled beyond the particular strata that they tested out afterwards. Of course, in this rotary business, they can wash, if they want to test out the formation they have gone through,—all they do is to pull back and pump water in and wash out the mud, and that frees up the formation or washes it clear again, and if there is any gas or oil there it breaks in. And after they had gone beyond some oil strata they afterwards backed up and tested it out. For what reason, and so forth, I don't know anything about that.

Q. Are you acquainted with Section 26 in 30-23?

A. Yes.

Q. Do you know whether the Associated Oil Company has brought in any wells that are producers in that section?

A. They brought in a well on 26.

Q. When was that produced?

A. That was called a finished well or producer there over [1405] a year now. It produced a while and then shut down, and this well on Section 24 has also been brought in as a producer.

Q. What production did that well give on Section 26 per day in barrels?

A. 20 or 25 barrels.

Q. How do you know that? Do you know whether it has ever been thoroughly tested out?

A. I know that as far as I saw the well in operation and—

Q. Just answer my question. I ask you whether you know that it has been ever thoroughly tested out?

Mr. Lewers—You asked him how he knew it. I submit that the answer is responsive. The question is double.

A. I saw the well producing, and from what I saw of it in operation I judge it to be something in that neighborhood of a well. And, furthermore, I was told by Mr. King—

Q. By Mr. Mills—You needn't state what Mr. King told you, because that would be hearsay evidence. Your principal information came from Mr. King in the matter rather than from your own personal observation, didn't it?

A. Not altogether. I spent some time over there when they were working on this well.

Q. How much time did you spend there?

A. I have been at the well several times, and I

stayed there one afternoon, all night and part of the next day.

Q. What did you stay there so long for?

A. I wanted to see how they were getting along with these different wells they were working on.

Q. You remained there practically two days to watch this one well?

A. No; I was watching the other wells they were working on.

Q. In the same section?

A. They were working at that time on a well in 24 and a well [1406] in 22, and a well on Section 30 in 30-24.

Q. That well on Section 30 in 30-24, what have you to say about that well? Do you regard that as a producing oil-well?

A. One of the times that I was there they had encountered about 13 feet of sand, approximately, and the well blew out and gave evidence of making a pretty good well. It seemed to be more of a blow-out than anything else, and they went ahead and drilled it deeper. At that time it was 2713 feet. They afterwards drilled the well to 3836, looking for something better. As to how much of a well it amounted to, I don't know.

Q. Do you think it ever went as high as two or three hundred barrels a day?

A. I don't think from the evidence I saw of it—I don't think it would stay doing that; no.

Q. Would you be surprised to learn that it had

run two or three hundred barrels a day by actual measurement?

Mr. Lewers—For how long? One day?

Q. By Mr. Mills—Well, for a sufficient length of time to guage it.

A. From what I saw, I would be surprised; yes.

Q. Are you acquainted with a man by the name of James F. McCay?

A. Yes.

Q. What is his business?

A. At the present time he is employed by the Associated Oil Company.

Q. He is their head trouble man, isn't he? He looks after their wells when they are in trouble?

A. He was the tool-pusher, but I think now he is in charge of a string of tools, working on a well.

Q. Was he at any time their head trouble man, as it is called—taking care of their wells when they get into trouble? [1407]

A. I didn't know him as filling that capacity.

Q. Mr. McCay testified on page 684 of the transcript as follows: "A—That was on Section 30.

Q—Was that in 30-24? A—I think so; yes sir.

Q—East of the well that you have first referred to?

A—Yes: It is east of it. Q—Now, will you state

whether you were there when it was first put on the

pump? A—Yes sir. Q—And did you measure the

oil that was flowing from the well when you were

there? A—Yes sir. Q—How soon after the well

began to flow did you measure it? A—Well, we had

been working with it. I had charge of the well, at the time, perforating it and getting it to produce, and I had probably been over there maybe four or five weeks working with it, baling it, before we put it on the pump. We put it on the pump, and it had been pumping, I think, a couple of days, when I took a gauge of it. Q—How much of the casing was perforated? A—Pretty near 800 feet, I believe. Q—And between what depths? A—Well, somewheres in the neighborhood of 36 or 3700 feet up to 2700.” Now, Mr. Miley, you are familiar enough with that well to give figures of the depths. Will you state now for the benefit of this case how many feet of casing had been perforated and between what depths?

A. Well, they did not have any oil until 2700 feet, I think it was 2700 feet that they struck this blow-out that I referred to a while ago: and if they had any other pay stuff, it must have been from there down to the bottom.

Q. From what figures, do you say?

A. From 2700 on.

Q. 2700 to about 3800 feet, I think you said?

A. They drilled to 3726.

Q. “Q—Now, did that well increase its rate of production from the time it was first put on the pump until some time thereafter? A—Up until the time I gauged it. That is as far [1408] as my knowledge went with it. After I gauged it that time I have not been there since, nor ain’t seen the well

since. Q—And when you put it on the gauge, how much oil was it producing? A—It was producing at the rate of 406 barrels a day.” Would you call that a successful well?

A. I would.

Mr. Lewers—Why don't you read the rest of what Mr. McCay said; that it dropped off after that?

Mr. Mills—I will let you read it. I am not going to read this entire testimony to him.

Mr. Lewers—I notice that you read the good part.

Mr. Mills—If you find it here I will ask it.

Mr. Lewers—It is there on the cross-examination.

Q. By Mr. Mills—Do you know, Mr. Miley, whether the Scottish Oil & Gas Company on Section 20 of 30-23 was drilling at that time with a rotary?

A. They started that well with standard tools, I know.

Q. Did they ever put it on a rotary?

A. I think they afterwards put in a rotary.

Q. At what depth did they start with the rotary?

A. Well, it was approximately somewhere about 2000 or 2500 feet, if I remember right.

Q. Wasn't it exactly 2790 feet?

A. I don't know for sure. I know they got down somewhere in the neighborhood of 2000 feet. It might have been over or it might have been less—when they put the rotary in.

Q. In all these cases where the rotary rig was used you say it is possible that the driller might have gone in by the oil sand on account of the mud

masking the true formation, and get no results, where he actually passed through prolific oil sands?

A. Yes; they can plaster up the oil sand and shut it off with rotary mud. [1409]

Q. And is it possible, from your experience as a practical oil man, to conceal the true production of an oil-well while they are drilling it—conceal the fact whether a well is a good well or a bad well?

A. When you are drilling a well a man can't tell anything about what the well is in drilling. He has got to test it out and put it on the operating list before you can determine what it is.

Q. Is it possible for the driller to know that he has a good well and conceal the fact from any one else, unless the other party would go in and test it out himself?

A. It would all be guess-work. You can't test a well without actually operating it.

Q. For how long?

A. Well, to know and have a conservative idea of what a well is good for, it ought to be on the steady operating list for 30 days, because these wells, when they come in first, have a heavy gas pressure, and lots of times will produce more oil the first few days than after they have been pumped for a while.

Q. Assuming that the well was tested out for a minimum time of 30 days, is it possible to conceal the fact from the world that a well is actually a good producing well?

A. Well, if you can shut the blooming thing

down, it is concealed. You can't tell what it is good for if it is not operated.

Q. Can you plug it so that it can be concealed?

A. You might fill up the hole, I suppose, but if it is a well that won't flow, you simply shut it down and no one knows what it is good for.

Mr. Lewers—Is this preliminary to showing that the Scottish Oil Company knew it had a good well and deliberately sacrificed it? [1410]

Mr. Mills—I don't know that I have to answer every frivolous question that is asked.

Mr. Lewers—It is pertinent in the line of your examination.

Q. By Mr. Mills—Mr. Miley, you have spoken of a well or work of yours that you started on Section 29 in 30-22 and in Sections 3 and 10, I believe, of 30-21?

A. Section 3?

Q. Wasn't it 3 and 10?

A. A well in 10.

Q. In 30-21?

A. 30-21.

Q. Was there another one there?

A. There was another one in 11. There was 11 in 30-21 and 11 in 31-22.

Q. There was one drilled by the Associated in Section 3, wasn't there, that you mentioned?

A. Yes; Section 3 in 30-21.

Q. And one that you drilled in 10 in the same township?

A. Yes.

Q. And one in 29 of 30-22?

Mr. Lewers—That is right.

A. There are a lot of wells in 29.

Q. By Mr. Mills—This is the one you first spoke of as having been abandoned. Which side of the anticline were those three wells—the McKittrick anticline? Were they west or east?

A. In Section 29?

Q. Yes.

A. Now, wait a minute. You say I drilled a well in 29.

Q. You spoke early in your testimony—

A. I drilled a well in 29, 3520 feet deep, and then I drilled—

Q. Let us go back to the well that you abandoned? [1411]

A. I abandoned that one on 29.

Q. Is that the one you first spoke of in your testimony where you acquired a lease from a man named Barry?

A. Yes sir: That was on that property. That is where I drilled the first ten successful wells.

Q. Was that particular well that you abandoned on the west or east side of the anticline?

A. I don't know; nor nobody else, I guess. We had shallow oil around that well.

Q. How about these wells in 3 and 10 of 30-21? Which side of the McKittrick oil outcrop was it?

A. They were on the extension of the McKittrick

outcrops, and whether the sands pinched out there or whether they are southwest of the anticline, I don't know.

Q. You are not positive that they were on the northeast side?

A. I don't know.

Q. Isn't it generally a fact that wells which have been drilled on the southwestern side of the McKittrick oil crop or in that vicinity have not been as successful as the wells drilled on the northeast side?

A. That is right.

Q. They are generally uniformly successful on the northeast side of the outcrop?

A. Before the sands pinched out, yes.

Q. And you say you don't know whether the wells which you described in Section 3 and 10 and the one in 29 were on the southwest side of the anticline?

A. Well, now, you want to keep those ones in 10 and 3 away from this one in 29.

Q. Take 10 and 3, then.

A. The formation there is—that really was an extension [1412] of the McKittrick stratum, and they have never been able to extend that any further along that general trend. So, therefore, the sands may become barren and the formation may pinch out, and still it might be back to the northeast. But they have not found anything to the northeast along there in the same line of this McKittrick stratum, and therefore it has probably pinched out.

Q. Have you any opinion now yourself as to whether it is southwest or northeast of the oil crop there?

A. Well, it is out of the oil zone.

Q. Does the fact that those wells were failures have any bearing, in your judgment, as to whether the Elk Hills are favorable for the accumulation of petroleum?

A. No; nothing to do with the Elk Hills. Not very much.

Q. Has it anything at all to do with your opinion of the Township 30-23—the south half of Township 30-23—some 8 to 12 miles distant?

A. No.

Q. You believe a well in Section 26 in Township 30-22—

Mr. Lewers—He didn't speak of a well; he spoke of some rigs.

Q. By Mr. Mills—Yes; some rigs. Was there any drilling done there at all?

A. With those rigs that I spoke of there was nothing done at all.

Q. Didn't do anything at all?

A. In connection with those rigs, no.

Q. Did you ever drill a well there?

A. There was no well drilled there.

Q. Did you drill a well there?

A. No.

Q. So the fact that you didn't get oil was due to the fact [1413] that you didn't drill a well?

A. I didn't say that I put up those rigs. They were put up by Berry.

Q. You don't want that to have the appearance of having a bearing on the question, whether there is oil in the Elk Hills—the fact that they didn't drill there?

A. It simply establishes the fact that the people that put up the rigs didn't think enough of the country there to go ahead with them.

Q. Where? In Section 26?

A. Down in the flats there below the McKittrick strike.

Q. That was your reason for giving the testimony?

A. I gave the testimony that after the excitement got over they abandoned the thing.

Q. They didn't drill there at that time?

A. No; didn't drill there at all.

Q. And they did not prove the territory by actual drilling?

A. There was a well drilled there in the last two years.

Q. I am speaking of the testimony you gave this morning at some length about carrying out some drilling rigs there—building some rigs there. That is what I am referring to.

Mr. Lewers—What is the question?

Mr. Mills—I am asking him if he desires to be understood that because they did not drill there was any evidence that there wasn't any oil in the Elk Hills?

A. It would have some bearing on the man's judgment of the country. You generally feel your way out from your actual discovery. You generally feel yourself away. Now, they didn't think enough of the country, working away from the actual development in McKittrick, to go ahead with it. So they abandoned it.

Q. Who was it that put those rigs out there?  
[1414]

A. Clarence Berry's father.

Q. Did you have any financial troubles at that time—troubles in getting money?

A. No.

Q. Had all the money they needed?

A. I don't know anything about that.

Q. Do you actually know as a matter of personal knowledge yourself why those rigs were abandoned?

A. Abandoned because they didn't think the ground was any good.

Q. Is it regarded as good oil land now?

A. I don't think so.

Q. You think not? You think Section 26 is regarded as poor land for oil?

A. It is problematical. 26, 30-22, is not proven territory. It is questionable territory.

Q. You wouldn't wholly condemn it, would you?

A. I wouldn't want to spend very much money in there for a while until I knew something more about it than I do now.

Q. Well, it was never proven by the fact that they put up some rigs and didn't drill?

A. So far as the actual knowledge that there was not or was there, is concerned, it was not proven; no.

Q. So that the adandonment of the well was due to the fact that it was never proven?

A. No; they abandoned it because they didn't feel justified in spending any money on it.

Q. What year was that?

A. 1901 or '2.

Q. Berry had no experience in the oil business, did he? He was a Klondike miner, wasn't he?

A. He was getting quite a bit of experience at that time. [1415] He had a couple of hundred thousand dollars in McKittrick.

Q. He made a couple of hundred thousand dollars in the Klondike.

Mr. Lewers—Let him finish his answer.

Q. By Mr. Mills—Isn't it true that he was not an experienced oil man?

A. He had the money to buy experience.

Q. He had the money which he earned in the Klondike, but he was not an experienced oil man?

A. Not at that time himself personally.

Q. Do you know from your own personal knowledge that the well spoken of by you on Section 22 or 30-23 of the Associated Oil Company has gone 3000 feet deep?

A. Do I know that it has gone 3000 feet deep?

Q. Yes; to your personal knowledge.

A. I didn't measure up the hole myself.

Q. Isn't it a fact that it is less than 3000 feet to-day?

A. No; I am pretty well convinced that it is about 3000 feet deep.

Q. Do you give your testimony from your own personal knowledge of it or from hearsay?

A. From my observation. I know when I go into a rig and they are running a rotary and pull out the drill pipe and stand it up in the rig, I can tell pretty closely how deep it went into the hole.

Q. Did you watch it to see how deep it went?

A. When I go into a rig I always look at things.

Q. I am asking you if in this case you watched the rig to see if it was 3000 feet or not?

A. Yes; I was around that rig—

Q. My information is that it was less than that. I want to know if it is a fact. [1416]

A. From what I see of the well I know it is pretty close to 3000 feet.

Q. Have you been pretty intimately acquainted with the work done by the Associated Oil Company up there from the time they went into the Elk Hills?

A. I have kept tab on what they have been doing there as well as I did on all the rest of the "wild-cat" drilling, on that flat.

Q. Their work has been done there intermittently? They have not prosecuted it with great vigor, but did the work from time to time?

A. No; when they first went in there they prosecuted the work pretty continuously until they quit.

Q. When did they quit?

A. Well, they stopped operations, it must be, about a year now.

Q. Do you mean to say that they quit finally?

A. I mean that they had to stop their drilling.

Q. Hasn't there been other periods of time when they stopped their drilling and resumed it again?

A. Not on all the rigs.

Q. Well, they have done it on some of the rigs, haven't they, in the Elk Hills?

A. Well, those strings that they had running there were kept in operation pretty continuously, barring break-downs and waiting for material.

Q. Do you know that of your own personal knowledge?

A. Yes.

Q. You say that in the course of twelve years you have been a half a dozen times in the Elk Hills, and yet you are not able to state with definite certainty that they have continued that work without interruption from the time they began on those rigs [1417] over there till they quit a year ago? Is that true?

A. Yes; I know that they kept that rigs running pretty continuously, because—I wasn't over there—but I came in contact with the men working there.

Q. Then you are basing it on hearsay?

A. The keeping of the rigs working?

Q. Yes.

A. Well, some of it; yes.

Q. That is what I thought. Do you know whether the Standard Oil Company have put in some wells in the Midway district out on the flat upon the advice of Dr. Starke, their geologist?

A. Yes.

Q. You know also that they are big producers?

A. Yes; I know they have some fine producers there.

Q. Do you know whether the Standard Oil Company owns any land in the Elk Hills?

A. None to my knowledge in the Elk Hills. They reach over there to the Buena Vista.

Q. Isn't it a fact that they own Section 36 in 30-23?

A. Yes; it is marked here on the map "Standard Oil Company."

Q. Do you know whether the Standard Oil Company is an oil company?

A. How is that?

Q. Do you know whether the Stanard Oil Company is an oil company?

A. Yes.

Q. You went over there, you say, in 1902 and '03 in the Elk Hills for the purpose of looking over it as a prospective oil territory as an investment for yourself. Is that correct?

A. Yes. [1418]

Q. As early as 1900 you heard of this oil seep in 32 of 30-24?

A. No; I didn't hear that.

Q. Didn't you so state this morning?

A. I don't think so. I said I heard of oil seeps over in there. I didn't know exactly whether they were on that section or not.

Q. Did you think it had sufficient bearing on the question of your investment for you to make an investigation of these oil seeps to determine whether you would buy land in there or locate in there?

A. I didn't understand that there was any oil seeps in Section 32, 30-23.

Q. 30-24, Mr. Miley?

A. Yes; that is right. The only exposure that I have ever seen and figured that it is an exposure, is the one that I spoke of this morning close to the Honolulu well on Section 10.

Q. That is not responsive, Mr. Miley. I will reframe the question. You stated this morning on your direct examination, I think, or, at least, on cross-examination, that you had heard of these oil seeps in the Elk Hills as early as 1902 and 1901, and that you were in there as late as 1903 for the purpose of examining the territory as a prospective investment for oil purposes.

A. No; I was in there in 1902 at the time they were drilling the well in Section 11.

Q. You stated in 1903 also. Do you want to correct that.

A. When I referred to 1903 is when we abandoned Section 11 and moved over to McKittrick.

Q. I asked you specifically the question when you

were in there—I think on cross-examination—and I also asked you when you heard of these oil-seeps in the Elk Hills, and you said [1419] you knew of the oil-seeps before the time you went over there to investigate the land as prospective oil territory.

A. Yes; I know them by hearsay.

Q. I asked you why you didn't make an examination of them if you went in there for the purpose of making oil investments?

A. I was just looking over the country to see how it looked.

Q. You didn't want to make a detailed investigation of it?

A. I was not banking anything on these reports about what they had seen over there in the way of croppings in there.

Q. Then your trip over there for the purpose of investigating the possibilities of oil as an investment did not really amount to a detailed examination, did it?

A. Not a close detailed examination.

Q. If it had, you would have gone and examined these seeps, wouldn't you?

A. I don't know whether I could have found them or not.

Q. Assuming that they were there, would you have gone and examined them?

A. I didn't have any information as to the location of these seeps to take me to them, or anyone else that claimed they had seen them that could take me to them.

Q. Did you ever try to ascertain where they were from anybody?

A. Yes: I never could find out where they were.

Q. Did you do that before you went to look at the land?

A. I talked to some of these "wild-cat" fellows that locate land everywhere, where these seeps were, and tried to find them and couldn't find them.

Q. You tried to find them on the day that you went to look at this land?

A. I could drive from this well. It wasn't very far over in the hills, yes. [1420]

Q. You did make an effort to ascertain where these seeps were at the time you examined the land for the purpose of the investment?

A. Yes.

Q. And how much search did you make to find this seep which has been described as being several hundred yards long in Section 32?

A. I might not have been on that section. It is a pretty big country over there.

Q. How much of an investigation did you make to find these seeps?

A. I don't know just exactly. As I said, I went over there several days riding around there at different times.

Q. You didn't make any very extensive search for seeps, did you?

A. Not very, because I didn't have much faith in the seeps being over there.

Q. No. That is what I thought. You were willing at that time to condemn the Elk Hills as an oil territory with the limited knowledge you had after one or two trips that you made in there in 1902 or '03?

A. Not altogether from my trips there.

Q. At a time when you made no effort, substantially, to find where this seep was in Section 32 or any other seeps?

A. The seep did not make it oil territory, as I said this morning.

Q. Well, it would have a sufficient bearing on you as a man of means investing your money and jeopardizing your capital to induce you to make some preliminary investigation of it?

A. It would be some inducement, yes.

Q. You did a little "wild-catting" yourself in that country, didn't you? [1421]

Mr. Lewers—In what country?

Mr. Mills—In the McKittrick district.

A. "Wild-catting" on 10, as I spoke of a while ago.

Q. And didn't you wild-cat over on Section 22 in 30-22, you and some other "wild-cats"—E. J. Miley et al.?

A. We put up a rig there; we didn't do any drilling.

Q. Well, you "wild-catted" there.

A. That has been in the last few years. We got a little courage here when the last oil excitement came on in 1908, and we blew ourselves for a standard rig and done some assessment work.

Q. He was a more ferocious "wild-cat" than in early years.

Mr. Lewers—They all were.

Q. By Mr. Mills—You did some "wild-catting"?

A. Yes sir.

Q. You don't condemn a man for going out and prospecting and proving territory?

A. If you didn't "wild-cat" you wouldn't have any oil wells.

Q. And when we use the term "wild-cat" we use it as a euphemistic term?

A. A wild-cat well is a prospect hole, and we use the term "wild-cat" instead of "prospect" well, and the further it is away from development the wilder it is.

Q. That is it. The more wild it becomes. All right. That is all.

REDIRECT EXAMINATION  
OF

E. J. MILEY.

By Mr. Lewers:

Q. You say that there was a well actually sunk on Section 26 in Township 30-22?

A. Yes. [1422]

Q. By whom was that sunk?

A. Newman-Morris Oil Company.

Q. And when was that sunk?

A. The rig was put up there in 1909, I think, and just started in to do their assessment work; and in

1910 I think they began actually drilling to test the territory.

Q. And how deep did they sink?

A. Approximately 2700 feet.

Q. Did they find anything?

A. They found a little heavy oil at about 1200 feet, but not enough to make a producing well.

Q. And nothing below that?

A. Nothing below that.

Q. What is the present condition of that well?

A. It is abandoned at the present time. They became financially involved and stopped the operation.

Q. From your experience as a practical oil man, Mr. Miley, would you say that a gas seep or a gas blow-out is an indication of the presence of oil in paying quantities?

A. Not in paying quantities. It would have a tendency to encourage you to prospect, but it does not absolutely indicate that there is oil there in paying quantities. The formation may all be broken up and the oil scattered out, and you can't get enough of it in one place to make it productive or profitable.

Q. What is the recognized test for determining whether a territory is oil territory?

A. I can tell you a little story to illustrate that pretty well. It was told by a man who was a good citizen in this town, who had a lot of good experience.—

Mr. Mills—These stories cost us twenty cents a folio. Make it brief. [1423]

A. R. H. Herron, who is known through oil circles as an oil operator and an oil supply man. He told this story. When he was running the R. H. Herron Company, supplies, in a store down here in Los Angeles street, a man had some prospective oil territory that he thought of drilling, and he wanted to get a geologist to report or an expert to report on the ground before he started in, and he was referred to Mr. Herron as being a man of wide experience who could recommend him a good man to make this expert examination. So he called on Mr. Herron and Mr. Herron heard his story and he said "Now, I have got the expert for you. He never fails." "All right; I would like to meet him." He said "I will introduce you to him. He is right close here now." He stepped out of his private office and went back to the back of the store and introduced him to a string of tools, and he said "Here is the expert that never fails, and the only one."

Q. By Mr. Lewers—Do you agree with that story?

A. I agree with it.

Q. You were asked whether or not Dr. Starke of the Standard Oil Company had recommended sinking certain wells in the Midway field. Do you know whether or not Dr. Starke ever made any examination of the Elk Hills?

A. I don't know that he made an examination of the Elk Hills.

Q. Now, referring to Section 14, Township 30-22, where the railroad cut goes through, you spoke of

certain indications of asphaltum or oil there, and said they were not in place. Will you explain what you meant by that.

A. I meant that it was a formation that had washed in there from higher up on that formation.

Q. From up in the direction of McKittrick?

A. Yes; up there where the oil was oozing out of the [1424] outcrops, there being a ravine down there, and the water during the floods and heavy rains—we sometimes have cloudbursts that sometimes wash railroads out—and I meant by that that this stuff had been carried in or floated in from the places higher up on that formation.

Q. Have you ever seen any indications of that same float being carried at any other place?

A. Yes.

Q. Where?

A. You can find it along this same ravine and all those canyons all along in the McKittrick outcrops you find the float.

Q. Have you ever observed at any place successive layers of this asphalt float and then sand and then asphalt float again?

A. Yes; on Section 22 I tried to encourage myself enough there when we were figuring on spending some money on 22 in 30-22. There is some holes dug in on that section where we located it and it showed asphaltum, and they done this work and I presume recorded it as making a discovery. But some of the men that we had employed—one of our

foremen—he went and done some digging for us and afterwards I went in and passed on his work and told him he was simply digging in the float, and that it was nothing but float. There was no outcropping there at all in my opinion, and that was a pretty good indication of it, because it looked like a nice blow-out—a nice outcrop. It was a sort of a gully that was washed over, and it could fool one very easily.

Then there is another indications in those hills where you can find this stuff washed in from the McKittrick seepage.

Q. In your opinion would the character of that alleged outcrop in Section 14 in the railroad cut be apparent to any competent geologist? Would any competent geologist know that [1425] that was float?

A. Yes sir; he could pass on it by digging into it and examining it. He could determine what it was.

Q. You have spoken of those abandoned derricks that were put on Section 26, 30-22, by the father of C. J. Berry. Is Clarence Berry a practical oil man?

A. Yes; he is now.

Q. And to your knowledge has he ever attempted to take up any of that land that his father had those rigs upon?

A. Not to my knowledge.

Q. Now, you have spoken of keeping in touch with the operations of various companies that were drilling in there in the Elk Hills and elsewhere.

Will you state what your practice was with respect to keeping track of the development in that country generally in the vicinity of McKittrick?

A. I kept constantly in touch—that is, by conversations with the different ones that were operating on these various wells, when I saw them, and in addition to that I would, every so often, go around and see for myself what was going on and keep track of the developments of the entire field.

Q. Now, you also have spoken of going over the Elk Hills. Did you make some examinations of any other country around McKittrick?

A. I went over the Midway field and around the McKittrick flats and the Temblor country, and on beyond that way, and the Bellridge country and the Devil's Den.

Q. You went over that entire country quite generally

A. Yes sir.

Q. Was that your custom off and on from the time you first went into the McKittrick?

A. Yes sir. [1426]

RECROSS EXAMINATION

OF

E. J. MILEY.

By Mr. Mills:

Q. Speaking of that Newman-Morris well on 26, Mr. Miley, in Township 30-22, that was located on the southwest quarter of that section, wasn't it?

A. The southwest quarter and nearly in the southwest corner.

Q. Now, as a matter of fact, at 1080 feet to 1190 feet they struck 1100 feet of oil sand which produced 40 barrels a day? Isn't that true?

A. Why, I couldn't say.

Q. Have you ever examined the log of that well?

A. I never examined the log.

Q. Are you prepared now to swear under oath that it did not pass through an oil sand 1110 feet?

A. I couldn't swear that they didn't pass through, but I would be willing to take chances on its not producing 40 barrels a day and keeping it up 30 days.

Q. Do you know whether the log of that well shows that it passed through 110 feet of oil sand?

A. No sir; I don't know whether it shows that or not.

Q. And that it is estimated at 40 barrels flow of oil at that point?

Mr. Lewers—I object to that—

Mr. Mills—I am asking the question whether he knows that.

Mr. Lewers—He says he never saw the log. If you have the log produce it and account for it properly by some one who knows—some one who put the log together.

A. Do I know whether that is true?

Q. Yes; do you know whether that is true?

A. From my experience I know it is not true. From my ex- [1427] perience in that territory I don't

believe it. That is, I don't believe it will produce 40 barrels a day.

Q. Do you know whether it did produce 40 barrels a day?

A. No; it did not produce 40 barrels a day.

Q. Do you know W. K. Dennis of McKittrick, California?

A. I do.

Q. Is he the man that drilled the well?

A. He was working on the well most of the time.

Q. Was he on the well at the time they passed from 1080 feet to 1190 feet?

A. He was there.

Q. I recall that little story you told illustrating what the only expert was. You mentioned Mr. Herron; that Mr. Herron showed him some oil tools?

A. Yes sir.

Q. Did it occur to you that any point was added to the story by the fact that Mr. Herron was selling oil tools?

A. No; that had nothing to do with it.

Q. He is not in the oil tool business?

A. He is not now.

Q. He was at that time?

A. He was; yes.

Q. I can well understand how he could refer to that as the only expert.

A. He didn't mean it that way. I know Herron too well. [1428]

## DAVID KINSEY

Second Witness for Defendants. Los Angeles.

December 5, 1912.

*Direct Examination.*

My name is David Kinsey and I live at Maricopa, California. I have lived in the west side oil fields about 17 years. At present I am the superintendent of the Midway Valley Oil Company with headquarters at Maricopa.

I have been in the oil business since 1896 and during that time have been engaged in one way or another with the actual production of oil and have been a driller and superintendent of oil properties.

I am familiar with Sec. 12, 31-24. This section is in the east end of the Elk Hills. I first went into this section in 1908 for the purpose of drilling a well there for the Midway Valley Oil Company. In drilling this well I was superintendent and also was partly interested as owner. I was present during the drilling of this well and had active charge of it.

We started this well May 7, 1910, and drilled it to a depth of 4850 feet by the last of November, 1911. We used a standard rig entirely and did not employ a rotary at any time. We paid very close attention to the formations passed through, and I was watching all the way for the oil. I kept a log of this well which was made up from the daily reports furnished by the drillers. I was familiar with every foot of that well during the time it was being drilled.

From the surface down to 200 or 250 feet we had a

blue shale and clay mixed. From 200 to 210 feet we struck a water strata, or about there. From there on down to about 2,000 feet we had clear sailing with shale. At about 2,000 feet we struck a stratum of sand without water. From that down to 3700 feet deep it was almost all blue shale and clay. At 3700 feet we had a [1429] showing of gas and iridescent colors of oil on the water that came out of the well, but no oil of any kind. At a depth of 4,800 feet we struck a water strata that carried a heavy pressure of salt water. From that on to 4850 we had a blue shale and clay mixed and no other showing at all. The gas pressure disappeared.

This showing at 3700 feet which I have referred to as an oil showing was simply a color that came in the shale similar to that produced by pouring a few drops of coal oil on water. It was not black but it was an oily substance and it is found in the shale very often. But there was no oil sand in any part of the hole from the top to the bottom.

When we reached a depth of 4850 feet I decided that there was no use of going any further as there was no chance of getting oil. We therefore pulled out the pipe and abandoned it altogether. I never started any other wells in that vicinity and have since abandoned the porperty entirely.

I was in the Elk Hills in Sec. 11, 31-24 in 1902 or 1903. I never passed over Township 30-23 to know it, but probably I have driven over it. In January, 1909, I started drilling a well on the Midway flat in

Sec. 32 of T. 31-23. While we were drilling this well and were down to a depth of 1800 feet, Timothy Spel-lacy, who has been engaged in the oil business in that country for a number of years, told me that we were crazy for putting a well down there. Some weeks later after we had finished the well and it was flowing four or five hundred barrels a day, I asked him what he thought about our being crazy for drilling at that place and he told me that he never had any idea that we could get oil there. I first began work in that field in 1896 for Jewett & Blodget at "Old Sunset." They were drilling wells there for oil on Section 13. W. E. Youle was in charge of their drilling operations at that time and remained in charge of their drilling [1430] operations for three years after I went to work for them. I was acquainted with Mr. Youle during this time and worked for him as a driller. I never heard him say anything about going out on the flats or further out to sink wells.

The attention of oil men, as indicated by actual drilling and development work, was directed toward the Buena Vista Hills and Elk Hills first in 1908 and 1909. Prior to that time the general belief amongst oil men from as early as 1900 and from that up to 1905 particularly, was that the oil zone was pretty well up in the hills from Sunset to McKittrick.

During the last five or six years the knowledge of oil men concerning the conditions of that country has increased greatly and much territory is now considered as possible oil land or prospective oil land

that would not have been considered in the light of the knowledge then existing. Up to 1905 the general opinion among oil men in that country was that the appliances then in vogue and under the conditions then existing a 2500 foot well would have been a pretty deep well. At that time the depth to which they ordinarily sunk wells was from 1200 to 1600 feet, which was considered to be a paying depth. A well from 4,000 feet to 5,000 feet deep, or such a well as that drilled on Sec. 12, of T. 31-24, would not have been considered in 1905 as a venture into which a business man would enter, because they had no machinery at that time equal to the attempt. Since that time we have changed the drilling rig and we use what they call ideal irons or clutch to handle our pipe. We did not have the same weight of pipe or the style of thread necessary to carry the present weight.

In drilling with a standard rig we have to put casing in to hold up the walls of the well and to prevent the drilling cable and tools from striking against the walls and breaking them down. For that reason we carry a string of pipe all the time. [1431] That string must be kept free to be able to raise or lower to allow the formation that is caving on the outside to fall in, thus keeping the pipe free. The drilling tools are operated through this pipe and make a hole underneath and ream this hole out to the outside diameter of the pipe. It is therefore necessary to have a string of pipe that will stand the whole length of the well and hold together of its own force as it is not supported by the ground at all. This could not have

been done in 1904. There has also been a change in the cables used in drilling. At that time we were just starting to use wire cables but they were not protected so that we could handle them to the same depth that we do now.

I heard Mr. Mills read to Mr. Miley an extract from Mr. Youle's testimony concerning oil blow-outs being always a sure indication of the existence of oil. I do not agree with this because there have been many places where a number of seepages were found but no oil was discovered although they drilled all around these seepages. Mr. Youle himself had such experiences at Half Moon Bay and at Hollister. There are seepages all over the Half Moon Bay country and he drilled wells all through there and did not get oil. This same thing has occurred in the Los Angeles field, although I am not sufficiently familiar with the situation to tell the details.

CROSS EXAMINATION  
OF  
DAVID KINSEY.

In the cases I have been referring to of drilling in the vicinity of seepages, the wells were drilled all around so that if there had been any lead of oil running away from them it would have been found.

I cannot approximate how many holes were drilled around the seepages because the seepages were spread out in different [1432] places and they drilled in places that they thought the oil should be found and it wasn't there. Answering as to whether in my opin-

ion, where the drilling took place, there was a proper development accompanying the drilling, I will say that my opinion would have nothing to do with it, because I am not posing as an expert; I am only telling the facts. I do not know, as a matter of fact, that in the Half Moon Bay Country Mr. Youle did not designate the place where the oil wells were put down and that they were designated by some one else. If I should find that to be true, it sure would alter my estimation of the relation Mr. Youle bore to the unsuccessful termination of that well. So far as Mr. Youle having anything to do with the well at Sergeant, I don't know anything about it, and I do not want to pass any judgment upon Mr. Youle upon insufficient information. Never to my knowledge have I been in Township 30 South, Range 23 East. That is about seven miles away from the well which I drilled on Section 12, Township 31 South, Range 24 East. From my experience as an oil man, there surely could be oil and oil sands between my well on Section 12, in Township 31 South, 24 East, and the land in the south half of Township 30 South, Range 23 East, if there is an anticlinal fold plunging toward my well. I drilled a well in the southwest quarter of Section 4, 11 North, 23 West. That was a successful well and produced over one hundred thousand barrels of oil in twenty-seven days and netted the company about forty-two thousand dollars. We are drilling another well on that section now. The first well that we drilled that I have testified to, on Section 4, is between two and one-half and three miles of the foot-

hills. This well is further out than any other well that has got oil except the Carnation, which is out a little further and struck oil. We are down 2048 feet in this second well and we expect to get oil at 2800 feet. It is my opinion that the formation dips that way. As far as my experience goes, speaking of the whole [1433] Temblor Range, the oil sands extend to the point where I brought in this successful well on 4 and towards the Buena Vista Hills. The well which I testified about on Section 12, in Township 31 South, Range 24 East, is in the Elk Hills, pretty well to the east end of the Hills. At the time I first started in the oil business in the McKittrick Field there, or the McKittrick-Midway Field, whichever you wish to call it, the deepest well we had at that time was 450 feet. Along in 1902 and 1903 they began to go 1500 feet and they struck oil at about 1200 feet. If at that time they had believed that they could have found oil sand at 3000 or 3500 feet, they probably would have made an attempt to go down.

REDIRECT EXAMINATION  
OF  
DAVID KINSEY.

Prior to 1905, I would not have gone into a new country from seven to eight miles away from where oil had been found to sink a 3000-foot hole because we had not been able to sink that kind of a well up to that time and did not have the machinery and appliances to do it with.

There were other wells sunk in Township 31-24 in

the vicinity of the well that I drilled on Section 12, but there were none sunk on that section to any depth. The East Midway Company, the Esperanza Company and the Balfour-Guthrie people put down wells there. These wells were on Sections 2, 7 and 9 or 10. The Balfour-Guthrie well on Sec. 7 was 3900 feet deep. The Esperanza was close to 3000 and the well of the East Midway Company went to a depth of only about 1200. None of these wells struck oil and they have all been abandoned.

The total cost of the well drilled by us in Sec. 12, 31-24 was about \$90,000. In my opinion this was a medium cost for a well of that depth and it would not have been unusual if it had cost from \$130,000 to \$150,000. [1434]

I am certain that we could not have encountered oil in drilling this well and passed through it without discovering it.

When I was in the vicinity of Township 31-24 in 1903 or 1904, there was a well in Sec. 11 of that township which had been drilled by a man named D. E. Hoey. I think they abandoned this well at a depth of seven or eight hundred feet. They abandoned this well because they ran out of money and the association closed them out of their available visible assets and Hoey went to the penitentiary. They encountered some gas in this well. It is my impression that they encountered this gas about the first of December, 1904. It was not as early as 1901.

L. D. BELL,

A witness called and sworn on behalf of the Defendant, testified as follows:

DIRECT EXAMINATION

My name is L. D. Bell. I am a native of Mississippi and came to California in 1884 and have been here ever since. I went to work for Miller & Lux in Kern County in 1884. I worked for them for nine years on the Buena Vista Lake part of the time being at Headquarters Ranch as Superintendent. After I left their employment I went to McKittrick and began working for the McKittrick Oil Company. That would make it 1906. At the present time I am a driller for them. I have been in the oil business ever since I have been in McKittrick. Before going to McKittrick I knew the Elk Hills very well. They were called the Elk Hills because the Elk used to go up there. There were but very few of them at that time in that country and the elk used to come down out of the hills at night and feed in the alfalfa and the Egyptian corn and then they would go back into the hills to hide in the day time. There are a lot of elk there now. I have ridden into the Elk Hills a number of times on horseback. I used to go up there with a lot [1435] of the boys on Sundays and every time we went to a different point. I never observed any work going on there in those hills. I know that there were locations in there but after I went over to McKittrick I never went back into the Elk Hills. Some locations were made in the Elk Hills about thirteen years ago.

I can name the parties who made the locations all except three. One was Charlie Meaves, Jim Ogden, Superintendent for Miller & Lux, and Harry Robinson, who is now dead, and Tom Larkin, who was the book-keeper, and Manuel Avila, who was the sheep boss. Mr. Meaves at that time was agent for the Southern Pacific at Button Willow. He was not an oil man. Mr. Ogden, who was Superintendent for Miller & Lux was not an oil man. Robinson was foreman under Ogden at the Button Willow ranch and he was not an oil man. Avila was Miller & Lux's head sheep man and he was not an oil man. I don't believe any of the men on that location were oil men. They located about eight sections. There were eight of them and I think they got eight locations. I don't know the townships or sections but they located from the dredger across the mountains. The dredger is right below the Elk Hills. It was known as Miller & Lux's dredger camp. It is five miles exactly east and south from Headquarters. I don't think they did anything with their locations. I think they just let them run out. They did not put up any rigs or sink any wells to my knowledge. I don't think they spent any money.

When I went over to McKittrick in 1906 I began work three miles west from McKittrick for the McKittrick Oil Company. I was well acquainted with the town of McKittrick and knew everybody in the town of McKittrick. Was in there nearly every day getting my mail. There was a whole lot of excitement there over the Elk Hills but I didn't take any interest in it and never cared anything about it. I don't know

just exactly when that excitement was but I know the time the Associated went in there. [1436] I am referring to the recent excitement. I don't know how long ago that was. I don't know whether others went in there other than the Associated except from hearsay but I know the Associated did because they went by our place. Before the Associated went in there I never heard the Elk Hills discussed as oil land. When I first went to McKittrick there was not anybody doing anything in the Elk Hills. Before I went to McKittrick fellows located the Elk Hills as oil lands and they were taking up considerable around there, jumping it as oil land and putting locations on it. I don't think they did anything with those locations, not to my knowledge. When I first went to McKittrick everything was shut down, all the fields were shut down; there was nothing started up until they got a new excitement in oil, raised oil to thirty cents and then everybody started to drill over the whole country. At that time the work was confined along the ridge of the Temblor range. It was later than this that the Associated went into the Elk Hills.

### CROSS EXAMINATION

of

L. D. BELL

At the time this location was made in the Elk Hills by Charles Meaves and others, I thought they would put me down as a locator as they were all friends of mine and I wanted to get in but they had enough men besides me. At that time there were a number of

people that believed the Elk Hills contained petroleum and I believed they did at that time. The sheep Superintendent of the ranch and the agent of the Southern Pacific got excited at that time over the belief that the Elk Hills contained petroleum. I don't know whether or not these men ever did anything with their locations. What ever went on in the Elk Hills I had no personal knowledge of except what I might have seen when I had driven or ridden in there in some places. About the same time that these [1437] other locations were made Jim Wagy made a location over there with other parties. They put a cabin on the hill and it was there last winter when I went down there. I heard that Miley was located all over the Elk Hills. I don't think those Elk Hills have any value for agriculture or farming. I have been in the business of agriculture and grazing for a number of years. I know the value of agricultural land in that vicinity.

Those elk would come down in the night and feed on the alfalfa fields and go back into the hills for refuge in the day time. They didn't go into the hills to feed. They went in there for hiding. Those Elk Hills have no value for grazing at all seasons of the year. In rainy seasons flowers and alfileria comes up in portions of the whole country there and they have lots of feed. I would not give much for the Elk Hills generally as a grazing proposition. I would not regard it as of any value for grazing. If it had any value at all it would be possibly for its mineral value because it has no value for agriculture or grazing.

## REDIRECT EXAMINATION

of

L. D. BELL

Miller & Lux's sheep run over the Elk Hills and they take the sheep in there for lambing purposes. In hard years they used to take them in there because the ground below was wet and they would take the sheep up in the hills and haul feed there for them as it was warmer there in the gulches. I hauled hay up there myself. In other years when there was rain in the spring the sheep grazed over those hills. I have heard of the Associated Oil well in there being a good well. I don't know what section it is on but I heard that the Associated had a good well. I am not interested enough at the present time in that country as an oil field to go in there because I don't think there is any chance to get in there now at all. I think it's all taken up. The Elk Hills are low foothills. They are a low range of [1438] mountains and you can drive pretty nearly all over them in a buggy except some places where you couldn't go where the ground was too steep.

## RE-CROSS EXAMINATION

of

L. D. BELL

I was interested in getting a location thirteen years ago when those other men went in there and I wanted to get in but I was up on the Lake and I didn't get a chance to get in there with them. I felt awfully disappointed because they didn't put me in with them.

A. BANDETTINI, a witness called and sworn on behalf of the defendant, testified as follows:

### DIRECT EXAMINATION

I have been residing at McKittrick since 1897. I was there before that time from 1895 to 1896. I ran a feed yard there and a livery stable and a store. I was in that business up to two years ago. I am still residing at McKittrick. I was acquainted with H. A. Blodget. I worked for Blodget under Mr. Youle. I have known Mr. Youle since about 1896. I knew J. B. Treadwell. Everybody in that country had to come to my place as there was no other place to go. I knew Mr. Miley. I worked for Jewett and Blodget at Sunset. Mr. Youle was Superintendent. I heard lots of people talk about the different oil fields but I never paid much attention. I know the Elk Hills because I worked at old Headquarters. I have been through the Elk Hills. I first went there about 1894. Since then I have only been through the valley between Buena Vista Hills and the Elk Hills. There was sheep all through that country. I don't know if there was any mining going on in the Elk Hills before 1908. I never saw any work going on in [1439] there before 1905. Some of those French sheep herders paid rent for grazing to the Land Department of the Railroad Company.

### CROSS EXAMINATION

of

A. BANDETTINI

I own eight town lots in McKittrick. I bought them

from the Railroad Company at two different times, four lots each time. In the deeds from the Railroad Company to me they reserve the mineral in the lands to themselves. I knew a man called Professor Owen. I have rented a team to him to go out in the country with. I knew a man by the name of E. T. Dumble. Treadwell came up there in 1899 and I think Dumble came after Treadwell left.

W. H. COOLEY, a witness called and sworn on behalf of the defendant, testified as follows:

#### DIRECT EXAMINATION

I live on Section 21 of Township 31-23 in the Midway Oil field and have been acquainted with the territory in that vicinity for seven or eight years. I have been a resident of California for about twelve years. I came to Kern County in 1902.

I am the secretary and superintendent of the Eagle Creek Oil Company which is operating on Sec. 31 of T. 31-23 in the Midway. Prior to that time I was superintendent for the Midway Crude Oil Company on the same ground. I first became interested in the oil business about nine years ago in the Old Sunset field at Maricopa. Before that time I had an experience in drilling wells for water in New Mexico and Arizona. Since coming to California I have worked with oil wells as a tool dresser and driller and practically done everything connected with oil wells.

I am acquainted with the Elk Hills and first went there for the purpose of locating land early in 1909. At that time [1440] there was nobody in there. I lo-

eated in Section 18 of T. 31-24, Sections 4, 10, 11, 12 and 14 of T. 31-23 and also in Section 26 of T. 30-23. When I went in there at that time there was no development in the hills and we had to cut a road to get in. There was an old road leading from the Buena Vista Lake through the valley south of the hills to McKittrick but it had not been traveled on for so many years that it was washed out and we could not make use of it without a lot of repairs. Other than a few sheep camps there was no life in there at all when I first went in in 1909.

At that time I went from the east line of the hills as far as McKittrick on the backbone of the anticline and I did not see any development. There were some wells about a mile or so from McKittrick but they were not considered as being in the Elk Hills. I saw some location notices in various places in the hills but I was unable to determine their dates at that time as I could find no notices that were legible. They appeared to have been there for a very long time.

In Sec. 32 of T. 30-23 I found where some trenches had been dug showing some gypsum. This work looked as if it had been done about a year prior to the time I went in there.

I went to the vicinity of McKittrick for the first time about nine years ago and at that time I went clear through from Maricopa to the Devil's Den and back, looking over the ground for a proposed pipe line that was to go through the north Midway. At that time the development at McKittrick covered a

little narrow anticline three or four miles long west and north of McKittrick. There was no development, to my knowledge, toward the Elk Hills. I am familiar with what is known as the Belgian Wells northeast of McKittrick along the western terminus of the hills. They are in broken country and now in the Elk Hills proper. I don't know of my own knowledge that they produced any oil. I have seen them but I saw no evidence of their having produced oil. There [1441] was some oil there but it may have been hauled there and lost out of their fuel tanks. When I went there nine years ago they had a watchman on the property but the rigs were pretty badly dilapidated and they were not being operated.

There was no development to my knowledge further out from McKittrick toward the Elk Hills beyond the Belgian Wells and I did not hear of any development in the Elk Hills at that time.

At that time I did not hear of the Elk Hills being discussed as possible oil land. There was, however, some suspicion that there might be oil in the Midway at that time. The first time I heard the Elk Hills discussed as possible or prospective oil territory was in 1909.

After the locations I have spoken of as being made in 1909, we erected four derricks on Sec. 18, T. 31-24 and drilled one hole 250 feet deep and another 1860 feet deep and then suspended operations. This work was done for the Kern Midway Oil Company. The Mercedes Oil Company drilled 1640 feet deep on the northeast quarter of Sec. 10, T. 31-23. The National

Midway Crude Oil Company drilled 3200 feet deep on Sec. 8, T. 31-23, This latter well was the only one that had a showing of oil which consisted merely of some colors appearing on the surface of the water in the slush box during the drilling, and also some gas. No oil was produced from this well or from any of the others I have mentioned.

These various companies expended in all about \$165,000 in drilling the wells I have mentioned.

The well on Sec. 18, 31-24 was started in April, 1910, and we suspended drilling operations in February, 1911. Since that time we have suspended operations waiting to see what our neighbors might get on the adjoining sections.

The 3200 foot well on Sec. 8 of T. 31-23 is not now being drilled further and recently we were working on it trying [1442] to shut off the water and we think we will finish the hole sooner or later as soon as we feel like putting our money into it.

I guess the only occasion we had to go in there in the first place was to take a chance on it. We told everybody that put money in it that it was a gambler's chance and they put it in with that understanding, and nothing has occurred since that time to change my mind about it; I think it is a gambler's chance yet.

There is no certainty of finding oil within half a mile or mile of a well which is producing oil. I find that there is a great deal of difference even between locations as to the character of the oil and the amount

that wells will produce. I think the oil occurs in kidneys, or pockets and saturation in the sand beds is more prolific at one place than it is at another. There are many wells in commercially producing territory which are not profitable. In other words oil is where you find it and the only recognized method of determining its presence is to drill for it.

I do not think it possible for an experienced geologist to determine whether a particular territory that has not been developed is good oil territory without sinking a well. I do not think a practical oil man would place much confidence in the report of geologists of the presence of petroleum.

I do not think that the prediction in Bulletin 406 of the United States Geological Survey that oil could be found in the Elk Hills at a depth of 800 to 1400 feet is well founded. We did not find it when we drilled for it and reached the depth stated in the report where we ought to find it. If this bulletin meant that oil would be found at a depth of 5,000 feet within the Elk Hills, I might take a gamble on finding it, if I had plenty of money, but I would not do so because of the geologist's report. They generally tell us where the oil is not. I do not go on geologists' reports at all.

In 1904 I do not think that a 5,000 foot well would [1443] have been considered a possibility in the California oil fields. At any rate not in the Midway fields, as we did not have the facilities for going that deep. As late as 1904, 3400 to 3700 feet was considered as a

maximum. Since that time there has been a great change made in the methods of drilling and in the equipment and appliances used and they are still being improved upon.

I would not advise any one who is anxious to invest money to sink a well in the Elk Hills at this time, because I do not want to get any of my friends in bad, because I drilled there. I do not think you could get a return on the money commercially speaking. I do not think it would produce petroleum in paying quantities. I would not recommend investment myself. It would be extremely hazardous at any rate.

#### CROSS-EXAMINATION

of

W. H. COOLEY.

The location in which I am interested and in which I was one of the locators on section 26 in Township 30 South, Range 23 East, I believe is leased to the Associated Oil Company with an option to purchase. I might have built two or three houses on that section but they took the ground over. My first experience in the oil business was the drilling of a wild-cat well in Mexico sixty miles from Galop. All the rest of my experience in the oil business has been during the last nine years in California. All I know about the geological formations in the McKittrick country is what I have read and I had investments that used to bring me in contact with the well reports. I also accompanied geologists over the field. I am not prepared to testify under oath that a well drilled eighteen

hundred and sixty feet in the Elk Hills will prove either the presenece or absence of petroleum deposits. When we started to drill in the Elk Hills we figured on going about fifteen hundred feet. Our wells were situated on [1444] the flank of the Elk Hills. They were not on the back bone of the hills and it seems to me as a practical oil man to be demonstrated that our wells would have to go deeper than they otherwise would have had to go than if they had been properly situated on the anticline but we had to drill our wells where we did so as to get them on our land. The fact that our land was not situated favorably for drilling of wells may have been the cause of our failure. The territory was good territory, I think. I don't want to be understood as condemning the entire Elk Hills on account of those few wells that we put down. There may be some wells there that have not yet been started. They might discover petroleum there at a very shallow depth. I don't go anything at all on geology in the location of oil wells but I wouldn't drill in the Tehachapi Mountains because that was too far away. You have to find some surface indications, such as fossils, that are present on the surface in oil bearing formations or country and there is numerous rocks and float that are closely related to petroleum that we find and where we find it we are more likely to think there is oil there than some other place where there is no stuff of that kind. So far as the surface is concerned I pay some attention to geology and I want some surface indications

of the presence of oil before I drill. The character of the formations and the indications of oil seepages and gas blow-outs are the strongest indications of the presence of oil.

In determining where a well shall be drilled I do pay attention to surface indications, such as oil seepage and gas blow-outs.

I do not think the lands in the Elk Hills have any value as farming lands. If they had some water they would grow grain all right. The character of the soil is such that it would support vegetable life all right. It is very prolific if you have water. I do not know of any chance to get water there [1445] but I have never given that matter consideration. We struck water in the wells I have referred to about a depth of 400 feet at one time and considered using the water for our development purposes.

### REDIRECT EXAMINATION

of

W. H. COOLEY.

I do not regard the surface indications such as oil seepages, gas, blow-outs, etc., as being indications of finding oil in profitable quantities. These indications extend clear along the Temblor Range and there have been numerous wells drilled along them that have not been commercially profitable. These surface indications are more marked in the Devil's Den territory than they are in the Midway but no oil has been discovered in commercial quantities there. There is a great difference in oil that can be obtained in com-

mercial quantities and oil that will suffice for a discovery.

We have always been vitally concerned with sand croppings in relation to petroleum deposits and it is just a matter of guess as to which side you get on. Some will say one side and some the other. If you don't get it you ought to be on the other side, and you never drilled on the other side and you never find it unless it is defined which way the dip goes and demonstrates that there is a petroleum outcrop with petroleum in it. For my part I would rather drill near a gas blow-out than near a so-called sand outcropping that shows dry. A gas blow-out shows life and it might come from petroleum and you generally find oil in greater or less quantities where there is gas. If you don't find actual gas but you find sand that has been discolored by gas that is a very good indication. The only way you can find out whether there is oil or not is to sink a hole. Of course surface indications are important. I wouldn't try for oil in a [1446] country that don't bear any surface indications whatever of the presence of petroleum, such as the surface indications that we find in an oil country but if we don't know that the surface indications were related to petroleum I would be as likely to drill in the Tehachapi range as in the Sierra Nevada range or any other range.

#### H. C. GOODYEAR

A witness called and sworn on behalf of the defendant, testified as follows:

## DIRECT EXAMINATION

My name is H. C. Goodyear and I live at McKittrick. I went there first in 1902 and remained there for three years and was then gone for three years and came back in 1908 and have been there ever since. Prior to my going to McKittrick I was around Bakersfield and the Sunset country going to the latter place in 1900. Since I have been at McKittrick I have been working around the oil fields in every capacity from a roustabout to a superintendent and have been engaged in actual practical field work in the development of oil.

I have had experience in other kinds of mining, practically every kind except coal mining. I have mined all over the Pacific Coast and in Alaska and in the Philippines.

Although I passed through the Elk Hills in going hunting in 1903 or 1904, I went in there first for the purpose of examining the hills in 1910. When I went over there first I observed no mining of any kind going on there and heard of none.

When I first went to Sunset in 1900 I observed the work that was being carried on by Jewett & Blodgett there. Most of their drilling was on the north foothills of the range. There was a little work going on in the flat but it did not amount to much and would not extend beyond a mile from the hills at the most. Going [1447] from there toward McKittrick there were several companies drilling along the foot of the range at a mile or two miles possibly, but they were

principally propectors. At McKittrick the development was toward the northwest for a distance of five or six miles along the hills but it did not extend toward the Elk Hills and there was no work going on there to my knowledge, nor did I hear of any.

Prior to the time I left McKittrick in 1905, the general opinion amongst oil men was that the oil extended right along the range of hills that lie back of McKittrick and ran in a northwesterly direction toward the Temblor. I never heard of the Elk Hills being considered at that time as oil land. I knew there were locations made all over that country, however. The Kern River oil discovery had been made shortly before I came into that country in 1900 and as a result the whole country was covered by mining locations. Everybody that had money enough to get out made a location, if he could find some open land and these locations were in places ten miles from actual discoveries. I have observed the same sort of thing in surrounding camps where there has been a gold excitement. Everybody rushes in to get a location and the country soon becomes covered in every direction.

During the time I was in McKittrick between 1902 and 1905, I was in touch with what was generally going on in that vicinity with reference to oil development and was very much interested in the discovery of new territory. I was personally acquainted with all the oil people in the field at that time and we discussed the situation at different times whenever we

would meet and talked about the localities around there where oil was discovered or was likely to be discovered. I never heard the Elk Hills mentioned in any of these conversations.

When I returned to McKittrick in 1908, there had been no work done, to my knowledge, in the Elk Hills. Since that time [1448] there has been a great deal done in there, the first of which was done in the summer of 1909.

According to my experience the opinions of experts as to the presence of oil would be of no value to me at all. The way to determine where oil is, is to put down a drill. I have had experience with one geologist in particular, and I never knew him to locate anything that was any account. I am referring to Mr. Owen.

According to my observation in the vicinity of McKittrick the oil production is not uniform as the field is undoubtedly spotted. You can get a good well in one place and 100 feet from there you may get a dry sole. It is my experience that having a producing well at one point is no assurance that a producing well can also be found a mile away.

S. J. DUNLOP, a witness called and sworn on behalf of the defendants, testified as follows:

#### DIRECT EXAMINATION

I live at Taft, California, where I have lived for the last three years. Prior to that time I lived in Los Angeles, San Francisco and other places in California. I have been interested in what is known as Twenty-five Hill in Kern County in Township 32-23

since 1900. At that time I promoted the Mt. Diablo Oil Company and we commenced actual development on Sec. 26 of that township. I was in charge of the development of this property. We put a well on each quarter of the section and made our discoveries of oil and obtained patent from the Government. After that there was quite a slump in the oil business and we let the property lie until a railroad had been built in there and until there was further development, at which time we resumed our work. This was about three years. This property is now known as the Dunlop Oil Company property and is producing oil. I am a direc- [1449] tor and superintendent of this company.

During the time I have been connected with these properties, I may say that I have been over the entire west side field. I was in McKittrick years ago a few days every week or so and with the exception of the last ten years I have kept in touch in a more or less general way with what is going on in McKittrick. From 1900 to 1905, the actual production territory of McKittrick was west of where the town is located and back in the hills, and there was no production of oil between McKittrick and the Elk Hills that I know of. The oil men generally who were interested in that district thought it was limited to the territory that is now developed.

Prior to 1905, I never heard anybody say that they considered the Elk Hills as being oil territory. In fact, the first time I heard it spoken of as even prospective oil territory was about two years ago.

I went into the Elk Hills in 1900 with a man named Graham who, I believe, is now dead. We went in to see if we could locate an outcropping of sand such as we had found further back in the hills on the main range where we are now operating. We made no locations as a result of this trip, however.

I did not see anything there to give evidence where it might be oil territory. There was nothing there to show.

I have not changed the conclusion I reached at that time and I do not believe that the Elk Hills are oil territory today. If there is an oil bearing sand there, I think it is too deep to reach so as to obtain a production of oil.

Prior to January 1, 1905, the general impression among oil men was that the Midway flat which is now very productive, could not be considered as oil territory. There were locations made all over the flat from the north end clear through to Sunset and there was some development that produced failures. As a [1450] consequence at that time we thought that the oil bearing region was along the foothills.

It is my experience that the only sure way in which to ascertain whether oil exists is by means of the drill.

### CROSS EXAMINATION OF

S. J. DUNLOP

In 1899 I was a conductor for the Southern Pacific Railroad Company and had had no experience in the

oil business. I left the employment of the railroad company in November 1901 and prior to that I was granted leaves of absence and it was during one of these that I was superintendent of the oil company I have referred to, in its operations in the Midway.

I remember the Honolulu Oil Well coming in about two years ago and I remember that it caused a great deal of excitement in that vicinity.

After my trip with Mr. Graham into the Elk Hills in 1900, I did not again visit them until about two years ago. During the last year I made about ten trips into the hills.

#### REDIRECT EXAMINATION OF

S. J. DUNLOP

My conclusion as to the present value of the Elk Hills as oil territory is not based solely on my visits of 1900 but upon what I have been given to understand as to the amount of development that has been done in there and the reported failures. I have had occasion to observe some of this development work myself and have visited some of the wells that have been abandoned and the materials taken away. [1451]

FRED H. HALL, a witness called and sworn on behalf of the defendants, testified as follows:

#### DIRECT EXAMINATION.

I live in Bakersfield, California. Bakersfield has been my home for about four years. Before that time I lived in Visalia. I am forty-four years old and was born in California. I am engaged in the oil business,

the water business and garage business and farming, and am vice-president of the Bakersfield Board of Trade. I am connected with the Visalia Midway Oil Company operating in the southeast quarter of Sec. 25, T. 31-22 in the Midway district. This company is producing oil and is operating three wells. All of my oil experiences has been confined to the Midway field.

I first became familiar with the Midway country either in 1900 or 1901. I used to go to McKittrick and hire a team to go to the property that I speak of in the Midway field, and we also got our supplies from McKittrick. I was familiar in a general way with the country in the vicinity of McKittrick where the oil development was going on at that time. This covered the ground lying immediately west or northwest of McKittrick adjoining the town and from there either north or northwest along the main range about two or three miles.

At that time the developed or known oil territory did not extend down toward the Midway from McKittrick. In 1901, I believe, they got oil near Taft. I know that when I first went in there the Bay City was drilling on Section 25 near Taft in T. 32-23.

In 1905 the development in the vicinity of McKittrick was practically the same as I have described it for the earlier years. Going down toward the Midway there was an increase in the development around Taft and there had been two or three wells drilled around McKittrick but not to any great depth, and [1452] they had not produced any oil.

I am familiar with the Elk Hills and believe that I was in them first in 1901 for the purpose of looking around, as we were then hunting for oil land to locate. We did not make any locations in the Elk Hills at that time, however. From 1900 up to 1905, I was familiar with the general impression of practical oil men in that field as to the limits of oil territory. The general opinion at that time was that the oil bearing territory was confined to the small strip from McKittrick west or northwest and a small territory around Maricopa and around Twenty-five Hill. I think they considered the oil bearing territory as extremely limited. The general belief was that the territory between McKittrick and Twenty-five Hill was not oil land.

During this same time it was generally conceded that the Elk Hills were not oil territory. At that time I would not have invested any money in a well in the Elk Hills and would have thought that a man who went in there to start a well at that time was either more reckless or had more nerve than I had.

I think that development in the Elk Hills commenced about three years ago. I remember the fact very distinctly but I cannot fix the time exactly. Since that time I have been in the Elk Hills and have kept in touch with the general situation, particularly with the Kinsey well on Sec. 12, T. 31-24.

Basing my statement upon my knowledge of the Elk Hills from the time I first went into that country up to the present and upon my experience in the oil

business, I do not consider the Elk Hills to be oil land today. I have never seen anything there to lead me to believe that it is oil territory, although I was interested with same people who made locations in there and put my name in on the locations. I held the interest that I gained in this way for a short time and then sold it and have [1453] never attempted to acquire any interest there and have no desire to do so.

I remember distinctly the report of oil being struck in the Kern River field in 1899, I think. As a result of this strike a great many people went all over the country and located on anything they thought might possibly be oil land and in many instances these locators were men who never had had anything to do with the oil business. These locations were made all over Kern County. Such locations are no indication to me of the existence of oil.

### CROSS-EXAMINATION OF FRED H. HALL

When I first became acquainted with the territory in 1900 or 1901, I went there for the purpose of finding land to locate for myself and a number of associates. Previous to that time I had had no experience in the oil business but had been a deputy sheriff and had held other similar positions.

The only way to absolutely determine the presence of petroleum is by drilling a well but attention should be paid to geological formations and physical evi-

dence on the surface of the ground in determining where to begin drilling.

Oil sands generally have some uniformity in the direction in which they dip from the outcrop, except where they are broken up. It was the general belief among oil men in the West Side field in 1901 and after that time that such continuity might be expected. In regard to the extent of the oil territory in 1901, I heard it variously estimated by different people. Some oil men thought that the strip was not more than half a mile or two miles wide. Some of them contended that it was very narrow in places and wide in others, but the general opinion was that the belt was confined to a narrow strip along the eastern slope of the [1454] main ridge of hills.

Some thought that this would run out in the flat while others contended that if you get down off the hills no oil would be obtained at all, and I shared in this general belief. Our location in Sec. 25, 31-22, was right at the base of the hill. It ran out on the flat about three quarters of a mile.

When I first went into the Elk Hills I cannot say that I thought there was a probability of oil being there but I thought there might be a possibility. I don't know that I had fixed opinion as to these hills. I went there to see what the country looked like but I did not find anything that I thought would warrant me in doing anything and consequently came away without doing so.

If I had believed at that time that there was oil at a depth of 1500 feet, or in excess of that, it is hard to

say what I would have done but I probably would have located the ground.

The locations in the Elk Hills on which my name were placed by others, was made about three years ago, and before the withdrawal order of September 27, 1909. After I found out that I was a locator, I think I put in \$1,000 or \$1100. I did not do this because I had any confidence in the ground but as my friends had gone into the matter and as they seemed to have a great deal of confidence and had declared me in, I put up the money.

I later had an opportunity to sell out my interest to one of my associates who paid me just twice what I had paid in. If I had believed that oil could be found at a depth of 4,000 feet at the place where these locations were made, I certainly would have held on to my investment.

## REDIRECT EXAMINATION

of

FRED H. HALL

In saying that it is safe to assume that an outcropping [1455] of sand will continue for some distance in the absence of evidence of disturbed conditions, I do not mean to say that it is safe to assume that this will be true for several miles. Just how far the assumption can be safely made depends upon conditions. [1456]

H. W. THOMAS, called on behalf of the defendants, having been first duly cautioned and solemnly

sworn to testify the whole truth, and nothing but the truth, testified as follows:

### DIRECT EXAMINATION

I live in Bakersfield, California, where I have been living for twelve years. I am engaged in the business of producing oil and have been engaged in the oil business generally in and around Bakersfield for the last twelve years and also in the Maricopa District and the Midway field.

I am a director of the W. T. & M. Oil Company, which has property on 25 Hill in the Midway District. I am also a director of the T. W. Oil Company at the same place and own the lease of the Tamalpais Oil Company. I am a director and Secretary of the Midway Premier Oil Company at Fellows, and also of the Midway Peerless Oil Company in the North Midway field as well as of the Alberta Midway Oil Company. I also own the Fox Oil Company lease in the North Midway.

All of these properties that I have mentioned and others with which I am connected are producing oil at the present time.

I first went into the West Side Oil fields in 1901, at which time I went to 25 Hill where I am now interested. During that year and the following year I was also at McKittrick. At that time the oil production in the Midway field was on 25 Hill.

The development at McKittrick was about where it is now, that is a little north and west of the present town of McKittrick.

After 1902 I did not go to McKittrick again until 1906 or 1907. At that time the developed territory had extended a little to the north, but had not widened out much.

In 1901 and 1902 the general impression among oil men was that the oil territory developed on 25 Hill in the Midway was about all there was and that the extent of the territory at Mc- [1457] Kittrick was about covered by the development then existing.

I first went into the Elk Hills in 1901, at which time I was driven over there by a man from Bakersfield, whose name I do not remember at this time. I went from 25 Hill on the Midway through the Elk Hills and then to McKittrick. We made this trip for the purpose of locating some land, but I cannot say what township or section we were on, but we went to a place north and west of the Buena Vista Lake and four or five miles from the Lake. We made some locations but I never even placed the notices on record and never did any work on the ground.

At the time when we went over to the Elk Hills to make these locations I had never heard any oil men say that they considered the Elk Hills as oil territory. During the last three years I have been over in the Elk Hills a number of times and have traveled over a good part of the hills but have had no interest in any claims over there. I have, however, kept in touch with what has been going on over there.

I bought some of the material that was used by the Monsoon Oil Company in drilling a well in the Elk

Hills as they were through with it and had abandoned the ground.

I do not think that the Elk Hills have been proven to be oil land. I say this because I know of a well that has been drilled there to a depth of 4800 feet which did not find any oil. If I had an opportunity to get land there for the purpose of sinking a well I would not do it nor would I advise anyone else to do so with the expectation of producing oil in paying quantities. I would not advise anyone to sink a well there as a gamble even.

When I first went into the West Side fields I was familiar with the work carried on by Jewett & Blodgett. They were carrying on the work under Mr. W. E. Youle as their Field Superintendent and he was the first man with whom I became acquainted [1458] in that country. All of this work in the early years of the field was done in the low hills right in the main range you might say and none of it extended on to the flats. After Mr. Youle quit working for Jewett & Blodgett he was in charge of work for other people in the West Side fields and I do not know of any of his operations extending out into the flat. All of the earlier wells drilled by Mr. Youle for Jewett & Blodgett were small, shallow wells and I do not think that they were successful from a commercial standpoint.

All of the development out on the flat in the Midway and in the Buena Vista Hills has taken place within the last four or five years.

I have had no experience in developing untried ter-

ritory. I think it is generally conceded by oil men that geologists know more than the average man as they are peculiarly fitted for that sort of work by their study and knowledge. But some of the productive fields were originally turned down by geologists. I suppose that these fields have been developed by practical oil men or by people who are not geologists because of indications that would appeal to a geologist just as they would to a practical oil man. The Bellridge Field was opened up by a man who had practical experience in the oil business but who was not a geologist. I do not know whether this field was turned down by geologists, prior to that time, but I do know that several big companies had geologists out through the Bellridge territory a long time before there was anything done there. In fact all the fields I know of were developed by companies not guided by a geologist or a geological report.

#### CROSS EXAMINATION OF

H. W. THOMAS.

By Mr. Mills: [1459]

Q. Mr. Thomas, what fields do you refer to which were turned down by geologists and afterwards developed into oil fields?

A. Well, I will qualify that remark of being turned down, the fields being turned down.

Q. All right, what do you mean, then?

A. The Bellridge has developed into an oil field, and I understand—now, I can't say of my personal

knowledge, because I never talked to a geologist in my life.

Q. Mr. Thomas, before you complete your statement, I want just what you know yourself, not what you have heard?

A. Well, I don't know of any oil field that was ever turned down by a geologist that afterwards developed into an oil field. I don't know, because I never talked to a geologist.

Q. Now, do you know, as a matter of fact, that no field in California with which you are acquainted has ever been reported favorably upon, prior to its development, by a geologist, of your own personal knowledge?

A. I said that the fields were developed by people, either companies or individuals, who hadn't any geological report on that field; they didn't go in there because of any geological report.

Q. Now, do you know, from your own personal knowledge, Mr. Thomas, that none of the companies which went into these new oil fields in California were guided by geological advice before they went in there?

A. Well, I will take the fields that I know of.

Q. Yes. Those are the ones I want.

A. The Bellridge field—or, to go back earlier than that, as I remember, John Conley drilled the first well in the Midway field. He and Spellacy went in on 25 Hill. I know that neither one of them ever saw a geologist in regard to that field. I know that. [1460]

Q. Do you know, as a matter of fact, from your

own personal knowledge, that neither one of them ever saw a geologist in regard to that field?

A. Yes sir.

Q. How do you know that of your own knowledge?

A. Well, I have talked to both John Conley and Tim Spellacy.

Q. Well, then, you know it from what they told you, don't you?

A. Oh, yes. I have not been with all the geologists all their time, so as to know they didn't talk to them.

Q. Now, let us understand each other, Mr. Thomas. I am asking you whether you know, from your own personal knowledge that none of the companies or persons who went in and developed these new fields were guided by geological advice with reference to the development of the particular field in which they operated?

A. Now, if I must answer that question by stating that I know they didn't talk to a geologist, I would say that I don't know that they didn't.

Q. Then, as a matter of fact, from your personal knowledge, you don't know, and don't want it to appear on the record, that in any one of these fields the parties who developed the fields were not guided by geological advice as to drilling upon that particular field?

A. Only from what the men who actually drilled the first well told me.

Q. Well, I say, from your own knowledge?

A. That is all I know. From my own personal knowledge—

Q. You don't know anything about it, do you, from your own personal knowledge?

A. No.

Q. Now, as to the Kern River field, that field differs quite materially from the West Side field—and by the West [1461] Side field I mean for twenty miles, from above McKittrick down to Sunset—in what we might term or designate the surface earmarks of the presence of petroleum underneath the surface, does it not?

A. I don't think so.

Q. Don't you consider that the Kern River field, which I understand to have been discovered quite accidentally, has very few of the conspicuous surface evidences of the presence of petroleum as compared with the West Side field?

A. The Kern River was not discovered accidentally.

Q. Well, I am not stating that as a fact.

A. No.

Q. I am simply stating what I understand to be the fact from previous testimony.

A. There were sand-croppings there and gas blow-outs, and had been forever, probably.

Q. Those sand-croppings and gas blow-outs are, in your opinion, indications of the presence of petroleum?

A. Well, they are in that case, and they are in some cases and in some cases they are not. There was oil there at some time. Wherever you find a cropping of oil-sand there was oil there at some time.

Q. To be sure. Now, those evidences, that is, gas blow-outs and sand-croppings, I believe you call them?

A. Yes.

Q. You mean oil-sand-croppings?

A. Yes.

Q. Are generally taken among people who know the subject somewhat thoroughly as evidences of the existence of petroleum underneath the surface either then or at some previous time? Is not that correct?

A. Yes. [1462]

Q. And people, even practical men, as you term them, practical oil men, are guided, when they have no geologists who know more of the subject than they do, largely by those conspicuous physical evidences that they find in explorations of the land?

A. Yes sir.

Q. Such as gas blow-outs and seepages?

A. Yes.

Q. Now, isn't it a fact, Mr. Thomas, from such knowledge as you have acquired as an oil producer and in your talks with men who perhaps know more of the subject geologically than you do, that petroleum occurs in depositions, such as sands or shales which have somewhat of a uniform persistence underneath the surface, that the oil collects in these sand shales, which are laid down by depositions or deposits in the first place? Is that your understanding of it, Mr. Thomas?

A. Yes sir.

Q. And these oil-sands or shales, being deposited by former or ancient bodies of water, perhaps, have some uniformity or persistence for quite a distance?

A. Yes sir.

Q. In all directions?

A. Yes sir.

Q. Somewhat in the nature of coal deposits or measures of coal?

A. I should imagine.

Q. Yes. And that where one finds, at the line of contact with the mountain range, and oil-sand-cropping which is exposed there, showing evidences of stain peculiar to petroleum saturation, a gentle dip or angle off towards the valley, then one may assume, from such knowledge as you have from practical experience, that that oil-sand will persist for quite a distance [1463] off into the valley? Is not that true?

A. As a rule, yes sir.

Q. There is no limit that you know of by which it may be determined where that stops, until it is broken up at some place?

A. No sir.

Q. Or met by another mountain chain?

A. No sir.

Q. Is not that true?

A. Yes sir.

Q. So that that geological fact, and taken in connection with the oil-sand-croppings and the gas blow-outs, as you have termed them, give one an idea of the probability, generally, of the presence of petroleum

for quite a distance in some direction away from that oil-cropping?

A. I would not say "probability". I would say "possibility".

Q. Well, there is no reason for you to assume that that oil-sand stops at any particular place, is there?

A. Only we found that it does.

Q. Well, except where it has been disturbed or interrupted by some convulsion of some kind, you don't know where the sand stops?

A. There is no way to tell from the surface.

Q. No.

A. Unless it is broken up some place.

Q. So that if you sink a well near the line of the out-crop and you find a petroleum deposit at say six or seven hundred feet, and measure back to your angle from which the same plunges off into the valley, and find that your calculation is about right, it is safe to assume that if you go further out you may still find oil-sand at perhaps a further depth?

A. Not safe; but we do it.[1464]

Q. Safe to assume that?

A. Yes.

Q. And you do it?

A. Yes.

Q. And unless you find there has been some breaking in the formation so as to allow this oil to waste or escape, or so as to interfere with its general uniform persistence, you would expect to find, as a prospective driller, oil still further out, would you not?

A. Yes.

Q. Unless it has been interrupted?

A. Yes; unless there has been a break.

Q. That is to say, if the structure is uniform throughout, and there is no evidence to your mind, that you can see, of any jamming up or breaking up of the structural form, you would expect to find it at any distance out until you found where the oil-sand had stopped?

A. Yes.

Q. Isn't that true?

A. Yes.

Q. Now, that is the theory, I take it, among practical oil men?

A. Yes.

Q. And they gather to their aid these geological evidences that they know of themselves?

A. Yes sir.

Q. Through the avenue of their own senses?

A. Yes.

Q. Without being told by geologists?

A. Yes. [1465]

Oil sand croppings and gas blow-outs are considered by practical oil men as encouraging indications in exploring for wells.

Then an oil sand cropping is exposed and the geological formation shows that it dips off toward the valley from the ridge where it is exposed, it was the general impression amongst oil men even in the early days when I went into the West Side fields, that there

was a possibility of that oil-sand continuing in its dip, but I would not say that this was considered to be a probability as we found in many cases that this oil sand did not so continue because of interruptions that could not be determined from surface indications.

Yes, that was the accepted theory, and it is today, that where you find a cropping, that is, a live cropping, if you go out and follow it out, if it goes out and don't go too deep, and still prevails, you will get oil.

I know that there has recently been some showing of oil in the Elk Hills but I have considered that territory and do now consider it as being problematical and too deep for practical purposes and have begged friends of mine to stay out of there because I did not think the land was worth a cent.

I do not pretend to have any actual geological knowledge of the Elk Hills and it is possible that I advised my friends to keep out of there because I had a "hunch" that the hills were not oil territory.

I know that it is possible that a rotary drill may sometimes pass an oil-sand and I also know that any territory where we have [1466] no mechanical difficulties in drilling, we sometimes find that in moving over from one location to another we will get out of the oil-sand because of the change or disturbance of the uniformity of the sand. I have know of this to, occur in McKittrick and also in 25 Hill.

REDIRECT EXAMINATION  
OF H. W. THOMAS

The changes in the oil-sands revealed by wells of which I have spoken were not indicated by anything on the surface. It is not assumed by practical oil men that an oil-sand found at a particular place would continue uniformly so that you could safely expect to sink a well seven or eight miles away from there and strike the sand. Even within one mile it would be a gamble.

The sand may end at any time, and that fact is known by geologists, and by the best of them; because I know and you know that the best companies over there, and with the best geologists, have drilled a lot of dry holes. They have gone down awfully deep, expecting to find sand at a certain place, and it is not there. So, I don't know, and no man knows, and no man can tell, where it is going to end.

The existence of a gas-blow-out or sand stained by gas, indicates that at some time and at some place there was some oil, whether it was ten miles away or ten miles deep. I know of places where these indications exist or wells have been drilled and no oil found.

The men who I endeavored to persuade not to go into the Elk Hills were Mr. Spellacy, Mr. Greene and Mr. Hutchinson. They started drilling in the Elk Hills but they are not operating there now. They have quit.

In my opinion a location in the Elk Hills at the present time would be a pure gamble. It is true that

my impression concerning the hills is what I have called a "hunch" but it is backed up and created by certain conditions that I know to exist there. [1467]

R. K. HOWK, a witness called and sworn on behalf of the plaintiff, testified as follows:

#### DIRECT EXAMINATION

I am now living at Taft in Kern County. I first went into the West Side oil fields in 1900 at which time I went to Sunset. From that time on I stayed most of my time at McKittrick for about four years. I was operating at McKittrick on Section 13, Township 30-22.

At present I am engaged in buying and selling oil well machinery and have been since March of this year. Prior to that time my business was selling oil land and inspecting oil land for different people. I have had practical experience in the development of oil land since 1900 when I began the development of this piece of property in McKittrick but it produced water rather than oil. My associates and I then bought a piece of property right in the center of the McKittrick field in section 19, Township 30-22 in which we drilled three wells in 1902, each of which produced an average of thirty barrels per day.

For about a year and a half I was superintendent of what is now the Associated Oil Company's producing property in McKittrick and had charge of all of the drilling. I also had charge of an oil property in Ventura County up to about two years ago. I have also had experience in the Midway field in Section 26,

of Township 31-22 where I have had full charge of drilling the wells.

Since 1900 I have had considerable experience in prospecting for new oil land. During the early years while I was at McKittrick I was interested with others in a well at Carneros Springs above Temblor where we drilled a well which was situated between the Carneros Springs and what is now the Bellridge field. We started this well because there was some indications there which we considered to be oil indications. We got nothing, [1468] however, except water, although we went to a depth of 1700 feet.

I am familiar with the Elk Hills and first went there in 1901 and 1902. I was last there during February or March of this year.

From 1901 up to 1904 while I was living at McKittrick I was familiar with the development that was going on around there. It covered what is now the producing field at McKittrick, the actual development being along the low range, north of the railroad. Several companies drilled what they considered to be deep wells there. Several of the companies went part way out on the flat away from the hills and drilled wells but got water and drew back toward the hills. The general opinion was that the oil lay in a very narrow strip through McKittrick. This had been demonstrated quite early in the development because wells very early were drilled that got outside of the oil belt.

Even in the territory extending down toward the

Midway, the belief from 1900 up to 1904 was that the development should keep to the hills. We had no machinery to go deep enough to catch the oil in the flats that was there and the general belief was that the oil was on the main range, what is now called the Temblor Range. When I went to look at the Sunset properties during these early years, it was Mr. Youle's belief that the development should stay on the Hill Range. He told me to stay with the hills because he had tried the flat and had not got anything. I remember that he was afraid that the flat was too deep for the machinery we then had to handle. His idea was that the oil was along the foot of the range to the north of the cropping that shows back of Maricopa.

The first trip I made into the Elk Hills was in company with Mr. Blodget. It is my impression we went into township 30-23. I remember we came out on the west side of that township. He wanted me to drill a well in there if I could [1469] raise the funds to do it. I looked over the ground with him and went back there myself a week or two later to satisfy myself whether I cared to put any money into it or not. I came to the conclusion it was very risky and did not invest any money there nor did anyone else to my knowledge.

From 1900 up through 1904 the Elk Hills were not generally considered by oil men to be oil territory. There were a great many men who were in there who were novices like myself, but I do not remember any-

one who was willing to put any money in the Elk Hills even to drill a prospect well. It was impossible to get a man to give it a thought as long as he could go somewhere else where there was production. The wells drilled right in the hills in front of McKittrick, which hills were an extension of the Elk Hills, had been producing nothing, and the Elk Hills were not considered to be oil land any more than this place was.

At that time I could have made locations in the Elk Hills if I had desired to do so as I was in a position to get money for such wells as I wanted to drill and I was also pretty well fixed myself.

I heard of the gas blow-out in the Elk Hills while I was at McKittrick during those years, but never went to see it as it meant nothing to me. I had experience in drilling near a gas blow-out in section 13 of Township 30-21 where I had got nothing except a water well.

Actual drilling in the Elk Hills started about three years ago. I was not in the country at that time but heard of the excitement. I have been over there since that time and went into the Elk Hills because I heard a report that the Associated Oil Company had found oil in section 30 of Township 30-24. There was no production being made when I visited the well. I have been in there since that time and recently bought an abandon- [1470] ed drilling outfit on section 4 of Township 31-24 where Reeves and Taylor drilled a well to a depth of 1750 feet. I know

the well was this deep because I pulled that amount of casing out of the well.

I am figuring on the purchase of a number of other abandoned rigs in the Elk Hills further to the north and west. I know these wells are being abandoned because I have talked with the owners with reference to taking out the rigs.

From my experience as an oil man I know the general opinion amongst practical oil men as to the utility of geological experts in connection with the oil business is that they are very useful. I think a whole lot of a geologist's opinion and have paid for some opinions in the past as they tell you where not to go. Of course they cannot tell you where to go to find oil commercially as that can only be determined by drilling. As to the certainty or probability of finding oil or finding the same oil sand at a distance from that, say half a mile or a mile, is a very hard question to answer. I am acquainted with geologists who make a specialty of giving the stratas through the Midway where it has worked out. In the Midway you may find oil at eighteen hundred feet and go a thousand or two thousand feet from there and then drill four thousand feet and not get oil to day.

#### CROSS EXAMINATION OF

R. K. HOWK.

By Mr. Mills:

Q. You say you have been in the Elk Hills. Haven't you observed that that country is very much

broken at the surface—undulating—and has very little spots which even if you had water would be level enough to be found?

A. Towards the lake end and on the slope towards the north— [1471]

Q. Speaking of the general surface conditions?

A. The Elk Hills is nearly 18 miles long.

Q. Yes, I know. I have been all over it myself—probably as often as you have.

A. That land on the slope, on the north slope of the Elk Hills is pretty nice land.

Q. What sections?

A. 30-23.

Q. What sections?

A. I don't know. Right along on that range.

Q. You mean on the flat, on the north half of the section?

A. On that rolling land; yes sir.

Q. Do you mean on the hills themselves?

A. On the side hills? Yes sir.

Q. I am speaking of the Elk Hills as an uplift. Not the flats themselves.

A. There are a great many little valleys that if water was on them would be very good.

Q. Just name a section where it would be suitable for agriculture? Have you made any study of the soil of the Elk Hills?

A. No sir: No more than casually.

Q. Do you know as a matter of fact that it is very porous and that it wouldn't hold water even if it is put on it?

A. All our soils are so.

Q. Clay soils are not.

A. All of our Maricopa flat, if you drive over it, you will find places where the recently—

Q. Let us not get into an altercation. Be responsive specifically to my questions. Otherwise we will have a clash in a minute.

A. No, you won't. [1472]

Q. I am asking you whether you know as a matter of fact that the soil conditions in the Elk Hills are so porous that they won't hold water?

A. No; I don't know that.

Q. Have you made any study to ascertain that fact?

A. No sir.

Q. You never saw any growth there in the way of trees or other vegetation in the Elk Hills?

A. Sage brush only.

Q. Did you ever see a single sage brush in the Elk Hills?

A. On the slopes; yes sir.

Q. Where?

A. On the slope toward the valley, facing the Midway.

Q. Sage brush?

A. That is what we call sage brush.

Q. Where did you see the sage brush?

A. On the south flank of the hills.

Q. Not in the hills themselves, but on the flank on the south?

A. Yes sir.

Q. Recurring again to the splendid agricultural character of these hills, you say they would make good farming land if they had water?

A. I think it would produce if you had water on it; yes sir.

Q. Do you know of any spot in the entire Elk Hills except on Section 16, 30-23, that is level enough to get 40 acres in one piece?

A. I don't know what sections.

Q. Water won't stay on that hilly land at all, if it was put on it, would it? It is too hilly and broken?

A. It is very rolling. [1473]

Q. There is no spot that you would like to pick out for a nice farm?

A. You couldn't give it to me.

Q. Couldn't give it to you for agricultural purposes?

A. Oh, yes; if you had water there.

Q. If you had water and crops there you would take it?

A. Yes.

Q. But in its present condition would you take any of that land as a farm?

A. I am not in the farming business.

Q. If you were in the farming business?

A. That is a question.

Q. You don't want it to appear by your testimony that you think that that is good agricultural

land in its present condition, would you, to be perfectly fair?

A. Here is what I do say in answer to that; I don't know anything about agricultural land, and I don't look at it as oil land.

Q. I am not asking you about that. Read the question.

A. In its present condition I don't think it is agricultural land without water.

Q. And you don't know of any way of getting water there, do you, in sufficient quantities and sufficiently low cost to make it useful for farming purposes?

A. That is the trouble with the country.

Q. Just answer the question.

A. No.

Q. Therefore, your testimony is not to be taken as indicative of the high agricultural value of these lands?

A. You can get better lands for the same amount of money.

Q. It has absolutely no value in its present condition for agricultural purposes? [1474]

A. In its present condition, no sir.

Q. And you would not select it from its present condition for farming purposes?

A. No sir; I couldn't.

Q. Would you if you could?

A. There is too much good land in California.

Q. Would you in any event select it, whether

there is other land or not, in its present condition, and work it for a farm?

A. No; I don't incline that way to farming land; no sir.

Q. In other words, you don't believe it has any value as an agricultural proposition in its present condition, do you?

A. No sir.

Q. Now, you say you went into McKittrick, as I understand you, in 1901?

A. I was there in 1900 and went back in 1901 to stay.

Q. Where did you come from to McKittrick?

A. San Francisco.

Q. Had you been living in San Francisco for some time prior to that?

A. For some time.

Q. For how long?

A. I don't know. I had been mining in Shasta county.

Q. What kind of mining?

A. Quartz.

Q. For how long a time before you came to McKittrick?

A. Three years.

Q. Before that what were you doing?

A. I was in Guatemala.

Q. What were you doing there?

A. I was employed by the railroad.

Q. What railroad? [1475]

A. The Guatemala Central Railroad, I spent two years in traveling to get my health back before I went to mining.

Q. In Guatemala you were working for the railroad?

A. Yes sir.

Q. How long were you there?

A. Three years.

Q. Before that what were you doing?

A. I lived in Oakland and superintended the water-works there for three years—the Dingee system at that time.

Q. Prior to that what were you doing?

A. The hardware business in New York state.

Q. That leads you back to what year?

A. About 22 years ago, when I came to California.

Q. 22 years before you came to California?

A. 22 years ago I came out here.

Q. What year was it that you were in the hardware business in New York?

A. I was there for about three years with my relatives before I came out here.

Q. What time was it—what year was it?

A. I don't know. I could figure back. I have been here 22 years, and prior to that I was there 3 years in the hardware business.

Q. That would be about 1890?

A. 1888.

Q. To what year?

A. I came out here in 1888, I think. Maybe it is 24 years that I have been out here.

Q. Did you ever have any business relations, other than being an occasional passenger on their trains, with the Southern Pacific Company or the Southern Pacific Railroad while you were in California or elsewhere? [1476]

A. No sir.

Q. And your first experience in what you call the oil business was when you came to McKittrick?

A. Yes sir.

Q. About 1900 or 1901?

A. 1901, but I am not sure.

Q. You had just left what business?

A. Mining in Shasta county.

Q. Was that gold mining?

A. Yes sir.

Q. Now, you say that in 1901 or '2 you visited the Elk Hills?

A. Yes sir.

Q. How long after your arrival in McKittrick did you go out to the Elk Hills?

A. The first time—I don't know. I knew Mr. Blodget and he asked me to go out there and look at that property, and I met him and we drove out.

Q. That was in 1901, was it?

A. 1901, or '02; I am not sure.

Q. Right along there somewhere?

A. Yes sir.

Q. And you went out with him and you say you

never visited the Hills again till about three years ago?

A. After I went back to the McKittrick, very often—three or four or five times—I took a horse-back ride through the hills and came back through Buttonwillow.

Q. What were you doing horseback?

A. Looking at the land.

Q. For what purpose?

A. For the purpose of forming opinion whether it was worth while to raise money to start a well.  
[1477]

Q. Water-well or oil-well?

A. Oil.

Q. Out in the Elk Hills?

A. Yes sir.

Q. At that time you hadn't had very much experience in the oil business except what you might have derived in running the water-works in Oakland or in the hardware business, or some of your previous occupations?

Mr. Lewers—I object to that sort of a question as frivolous.

A. I was drilling an oil-well when I made those trips. I was superintendent of an oil property.

Q. By Mr. Mills—What trips?

A. The trips to the Elk Hills.

Q. You became a superintendent in rapid order after you came there in 1901? You became a superintendent the same year?

A. I bought a piece of property.—

Q. What property were you superintendent of in 1901?

A. The property back of the Olig Crude, in Section 13.

Q. That was in 30-21?

A. Yes; I was part owner in the outfit.

Q. Your position as superintendent was derived largely from the fact that you were a large owner?

A. Yes sir.

Q. Not based on your previous geological observations?

A. No. We had to watch our pennies.

Q. You were out there to see that the money was not wasted?

A. Yes; we were all—nearly all the Californians at that time were beginning the game. We were all beginners in the game.

Q. At the time you went to the Elk Hills the first time you had not had a great deal of experience as a practical [1478] geologist?

A. No; I don't pretend—

Q. In fact, your knowledge was almost nil on the subject of general oil geology at the time you made your first reconnoissance in the hills?

A. I had looked over the Sunset property. That was the way I got acquainted with Mr. Blodget. And I had been out with Mr. Cooper—I had been out through the hills with him.

Q. But you had not very much knowledge of oil geology at that time?

A. No.

Q. As you look back on it now, with what you have learned since, you realize, do you not, that you knew very little about oil geology at that time?

A. Yes; I would make the same mistakes now. Everybody would if they didn't get the oil.

Q. You knew very little about oil geology at that time?

A. Yes. I had studied some of the—we had the bulletins. I don't remember the numbers. But I studied them pretty close to get that book knowledge.

Q. You have some book knowledge of geology?

A. I had a copy of the books in which we looked up the different localities as well as we could.

Q. In 1901?

A. Yes sir.

Q. Did those books or bulletins which you examined at that time tell you anything about the oil formations of the Elk Hills?

A. No sir.

Q. What do you mean?

A. In the McKittrick field there was a bulletin out, as I remember, treating on that asphalt deposit there. [1479]

Q. I am not interested in that, unless you want to volunteer it.

A. That is all I remember. I used that as a basis on these formations.

Q. You did find some excellent asphalt deposits around McKittrick?

A. One of the best.

Q. And you made \$15,000?

A. For our company.

Q. By tracing up and disposing of this asphalt mine which you say was 98 per cent pure?

A. Most of it 98 per cent; yes sir.

Q. Are you sufficient of a geologist at the present time to give me an opinion of the comparison of the formations in and about McKittrick, to the north and west of that, with the Midway field?

A. No.

Q. You do not feel competent to venture such an opinion?

A. No.

Q. But do you know as a matter of fact that the character of the structure about McKittrick is jammed up and broken up by the convulsions of that fold more so than at any other spot, so that it has caused more natural waste of petroleum which is now left in residuum beds of asphaltum? Do you know that to be a fact as a geologist?

A. Not as a geologist, but from observation it is rough like the north slope of—it looks to me just like the north slope of the Elk Hills. That is rough. Whether it is erosion or not, I don't know.

Q. Have you not been told or have you not

learned from your reading that the character of the formation around McKittrick has been jammed and broken up geologically so that it [1480] is impossible now to determine at what point in some places, to sink a well in order to find any oil?

A. That is the general opinion.

Q. You don't mean to say as a geologist, Mr. Hawk, that the Elk Hills from the reconnoissance that you gave it is broken up in the same way that it is at McKittrick?

A. Not from a geologist's point, but from observation it is very rough and broken in there.

Q. It is a structural fold, is it not, on the Elk Hills?

A. I don't know what you would call it, but I know it is just as rough a country as you could possibly get. You can't go over it horseback, it is so rough.

Q. I thought you said it was good farming land?

A. I am saying that where 30 is, to the north of there, off in here, where the Associated well is, that is very rough country.

Q. That is not suitable for farming there?

A. I should hope not.

Q. Do you know from your geological reading and basing your answer upon your experience as superintendent of several oil companies in and about McKittrick, that the Elk Hills is really in fact a gentle uplift with slight angle of the same sands that outcrop along the line of contact at McKittrick?

A. I don't know.

Q. You don't know that?

A. No; I don't know that.

Q. You don't make any pretensions of knowing anything from geological observations as to whether the Elk Hills would make a favorable spot for the accumulation of petroleum or not, do you?

A. What do you mean? My opinion about going in there and drilling for oil commercially? [1481]

Q. No; I am asking you if you would consider that from a geological standpoint—do you feel yourself as a geologist able to pass on the question whether the Elk Hills are a favorable spot for the accumulation of oil or not?

A. No; I am not a geologist.

Q. Now, Mr. Howk, in 1901, you say you went out into the Elk Hills for the purpose of determining the question whether you should go in there and drill an oil-well?

A. Yes.

Q. Did you look for any physical evidences of the existence of petroleum underneath those hills at the time you went out there—any surface indications?

A. I was looking; yes.

Q. What did you look for?

A. For a sand cropping. That is about all.

Q. Do you mean an oil-sand cropping?

A. Yes sir.

Q. What else would you look for?

A. If I could see evidences of asphaltum, as we found in McKittrick, I would think well of it.

Q. Those would be, in your mind, indications of the presence of petroleum?

A. To a certain extent; yes.

Q. Was it your understanding from the somewhat brief information you had at that time that these sands which outcropped along the contact of the Temblor Range near McKittrick, and which you say were stained over with petroleum or gas, dipped off into the valley, and that somewhere in those sands you could sink a drill, and if you reached the sands they would contain petroleum which a drill would prove?

A. I didn't see any indications.

Q. Isn't that your general understanding of the geologi- [1482] cal structure, that these sands that dipped off in the valley were somewhat persistent and uniform, unless broken by some convulsion of nature?

A. Naturally so.

Q. And unless they were cut off by something underneath which you could not see on the surface, they would extend indefinitely where they were deposited by the sea originally?

A. Yes.

Q. And unless some convulsion of nature had interrupted the persistence and uniformity of that sand stratum, it would exist till it met the other range of mountains?

A. That would be the natural effect.

Q. And that was the general belief among oil men, was it not, up there?

A. Yes sir.

Q. So that there was really no arbitrary limit, if you could have tools which would go down to get the sands, and the money to pay for the string of tools and follow up, why you should not expect to find oil in it after you struck that sand?

A. The indications were not there as we had them in McKittrick, to start with.

Q. I am speaking now of the general belief that these sands dipped off into the valley from the flank of the hills there.

A. I don't know what the general belief was, but it did not impress me enough to go and spend the cost of drilling.

Q. Read the question again. (The reporter reads the question.)

A. The general belief is that they dipped to the valley.

Q. And also, it was the general belief, was it not, that these sands had been laid down by the sea when the sea first covered that land—in a uniform and general disposition all [1483] over that valley?

A. Yes sir.

Q. And that these stratifications where they existed, there was nothing, unless there was some convulsion of nature to interrupt their course, to prevent their persistence indefinitely as far as the sea went?

A. Yes. But let me add this: We had tried by going out on the dip of the sands and failed to find it.

Q. We will come to that.

A. Won't that answer the same question.

Q. But that was the general belief, that the sands were laid down by deposition of the sea?

A. Yes.

Q. And if oil came into those sands, there was nothing to prevent its migration throughout its entire course?

A. Nothing whatever.

Q. Now, unless that stratification of sand in which the oil was found to accumulate had been interrupted by a shelving or by some intrusion of some kind, you would expect to find that as far as the sand went, wouldn't you?

A. After once finding it?

Q. Yes.

A. Yes sir.

Q. So that there was no arbitrary limit whereby a man could say, "If you go out there three miles, you won't find oil", was there?

A. There is today, but there was not then.

Q. At that time, the belief was that it extended out, but today you say it is different? Am I correct about that?

A. Yes.

Q. As a matter of fact, is it not true that from the time you first went into the McKittrick, where you say there was [1484] evidence of considerable

jamming up of the structural formation,—from there for twenty miles down the Sunset along the eastern flank of that main range where you say the oil-wells were originally on the flanks of the mountains, that since that time they have developed gradually by going out into the valley, into the flat, and in numerous instances they have found oil?

A. Yes sir.

Q. So, they have, in part, corroborated the theory which men entertained at the time you went to the McKittrick?

A. Yes.

Q. And it even has extended, as you say, to the Buena Vista Hills?

A. Yes sir.

Q. And there the same theory has been corroborated by certain parties sinking wells to a certain depth and discovering oil? Am I correct?

A. Not all of them.

Q. Some of them have?

A. Yes. But I want to add to that question. I can show the paper and I want him to corroborate it—to answer that question of yours. You are asking a very hard question.

Mr. Lewers—You have a right to explain your answer.

A. I want to explain that. Not by the theory, but the way it has worked out. He will corroborate it by what he has seen in the field. That geologist. It

is a hard question you are giving me. It is a damned hard question.

Q. By Mr. Mills—I am assuming all the time that you know more about the oil business than I do. If you don't, you don't know very much about it.

A. We know today that it is not theory. We started to spend money on the theoretical proposition. Let me have a piece of paper and I will draw the lines as I can. [1485]

Q. By Mr. Lewers—How will you get it in the record?

A. I don't want it in the record.

Q. I want it in the record. Explain what you mean so it will go in the record.

A. Here is our production today. Here is the Buena Vista Hills (marking on a slip of paper). Here is our strike of oil, coming out here. Assume that this is the valley. Here is our production of oil. The supposition is that this is an erosion of the same sands. Why is it on that same sand at certain points we get water-wells instead of oil-wells?

Q. By Mr. Mills—That is true. You will find that in what they call the synclines. The water being heavier than the oil it will sink and force the oil up in the domes of the hills. That is my explanation of it. When you find water here which is heavier than oil it will drive down into the lowest parts. It will have a tendency to force the oil up into the domes. Will that answer your question?

A. Yes. But a little more. On 25 Hill today we

have water—a great deal of water—between that point and this are oil-wells. Why is the water there? Why is the water there and not in between? These are the shallow wells. Here are the deep ones. The shallow wells have the water the same as the wells out here. Can you answer me?

Mr. Martin—Certainly; but I am not on the stand.

A. That is your business. But it is rather puzzling to me. That cost us money, Mr. Mills, to find it out. It is not theory.

Q. By Mr. Mills—In 1901 Mr. Blodget had you go out there to look over the Elk Hills as a possible or prospective oil territory?

A. Mr. Blodget knew I had some money for the business.

Q. And Mr. Blodget was at that time recognized as a man extensively interested in oil developments in the West side fields? [1486]

A. I think a great deal of his opinion.

Q. He entertained the opinion at that time that the oil-sand must extend out to the Elk Hills, at the time he asked you to go out there?

A. But he didn't put any money in it.

Q. I am not asking that. But did he entertain that opinion?

A. He thought there was a possible chance. It was deep land.

Q. He thought it was a possible chance? He thought sufficiently of it to interest you and others

in the undertaking of developing that field, did he not?

A. Well, it cost him no money to do that, and he was finding out something.

Q. How do you know it cost him no money when he has testified into the record that it has cost him money?

Mr. Lewers—The record don't show that it cost any more than to put up a few records and cabins.

Q. By Mr. Mills—At that time there was a few men that thought the Elk Hills was a favorable spot for the accumulation of petroleum?

A. The only men that tried to talk to me that it was a favorable spot were the men who had already locations. Men like myself who could have gone in and had the money to go didn't think well of it.

Q. You were interested in the flank?

A. Yes, but I was looking for more.

Q. You thought at that time, and quite reasonably too, as a novice in the business, that it was more favorable to drill an oil-well near a mal-producing well than to go out several miles distant into a new territory? You felt that your capital would be safer as an investment—

A. Yes sir. [1487]

Q. —To be perfectly frank about it?

A. Yes sir.

Q. And a great many people who were timid about the investment of capital, and who had little knowledge of the geological structure of the Elk Hills

and Buena Vista Hills, along along the hillside? Is that true?

A. That is true.

Q. Did you have some confidence in the opinion of Mr. Youle that you spoke of?

A. At that time, yes; a great deal.

Q. He was a man who had been largely in the oil business for a number of years?

A. He had made much of the production.

Q. He was really the pioneer in that field?

A. As a manager; yes. He and McWhorter.

Q. Mr. Youle testified at page 1022 of the record: "Q—You have examined the formation pretty closely along the line of contact of the Temblor Range at Sunset and northwest as far as McKittrick, during the time that you were engaged there by Jewett & Blodget, the P. I. Company and others. By comparison, what is the characteristic formation of the Elk Hills?"—he was testifying as an expert oil man of fifty-one years' experience in the oil business—  
"A—Why, the Elk Hills, always, to me—There was an intuitiveness there that I always felt like getting away from the broken conditions I found on the edge of the formation. And the Elk Hills looked good to me all right. But that is as far as you could give any geology on it. It looked good from every standpoint; but there was no evidence of any uplift before you reached the Elk Hills; therefore the same formation that existed and was cropping out on the McKittrick side, if it was uplifting at the Elk Hills, must be uni-

form, must be the same; and, as long as that didn't uplift and expose [1488] itself and spill over and make asphalt was evidence that you would get bigger, more prolific wells than you would where the asphalt was, because of the fact that it was not broken. The biggest wells in the world are where there is the least asphalt." Do you agree with him in his statement of facts?

A. Is that recent evidence of his?

Q. That is testified to in the month of May, 1912, in this case.

A. Could he have spoken in that way without the development as you have asked of me ten years ago?

Q. He was speaking of it as of prior to December, 1904.

A. He couldn't have said that ten years ago.

Q. He is stating now that that is what he believed before 1904. I ask you if you agree with him in that statement as a geological proposition.

A. As to the development, as it goes? You have got to agree with it today, because it is borne out by the wells. But you asked my opinion of ten years ago.

Q. He is responding now to a question of his opinion as of more than ten years ago.

A. He was there then?

Q. Yes; and he had locations in the Elk Hills. He goes on further: "Q—Then, as a result of that, did you regard the Elk Hills as more or less valuable as an oil territory than that right around McKittrick?

A—Well, as to value, it didn't have any, more than a mine has until after you get it, and after you get it it is too late to buy it for \$150 an acre. In my estimation as an oil man, it had a value—in other words I would be looking for a thousand or two thousand dollar an acre land. I would not be looking for anything else. It wouldn't be worth \$5 an acre, or one, if you didn't get it. That is the way I look at it.

Q—Well, as a possibility, then, for oil, what did [1489] you regard it? A—I would regard it as one of the best locations, without a question. No reason on earth. And that was from parallels over here I had just left in Puente. Without a question it would be one of the best locations in there.” Do you agree with his estimation of the Elk Hills as a favorable spot for the accumulation of petroleum?

A. I do not.

Q. And your opinion is not based on any great degree of geological or oil geological information?

A. I think, Mr. Mills, if you had \$50,000 to put in the oil business and say to me to go there, if I knew you or not I would say, “Mr. Mills, burn your money.” That is the way I feel. I may be wrong.

Q. You know from what you have heard, if not from personal knowledge, that the oil development so far in the Elk Hills is that of a deep territory,—upwards of 3000 feet?

A. Answer me this.

Q. Answer my question.

A. It is deep; yes.

Q. And you know that it requires a great deal more money to go into the exploitation of an oil property known to be deep, than it does in a shallow property?

A. Naturally.

Q. A deep territory is a place for a poor man to keep out of?

A. Yes sir.

Q. A deep territory, if you know anything about the oil game, you know it to be a fact that a deep territory is a place for a man with plenty of money to risk?

A. That is true. Let me ask you this: In these oil wells where they have the oil in the Elk Hills, have they the sand?

Q. Let me ask you another question. [1490]

Mr. Lewers—Mr. Howk, he can't answer the question.

A. Excuse me then.

Q. By Mr. Mills—Do you know that the Elk Hills, in 30, 30-24—that there was produced a well in which there was upwards of 700 feet of perforation of the casing, and in which when it was put on the gauge for two days ran at the rate of of 406 barrels of petroleum a day?

A. For one day?

Q. For two days?

A. 800 barrels for two days?

Q. Yes. Do you know that to be a fact?

A. I do not.

Q. Would that fact make any difference to you or modify your opinion of the territory if you knew it to be a fact?

A. If I would go there and see a hundred barrels a day for twenty days—

Q. I am not asking that. Will you answer my question? Do you know as a matter of fact—

Mr. Lewers—Will you let him answer your question?

A. You want my opinion if I saw a well produce for 24 hours or 48 hours at the rate of 400 barrels for 24 hours if I would call that oil territory?

Q. By Mr. Mills—No. Would you consider it a good well?

A. Absolutely, a good showing.

Q. Assuming that the well was buggered and held down, in order to conceal its true capacity, until it ceased altogether to flow, and you knew it to be a fact that it had been deliberately plugged or stopped from flowing, but that notwithstanding that it would break loose, would that modify your opinion of the territory in any way?

A. How would I have the proof?

Q. I am not asking you that. If it was a fact and shown [1491] to you, would it modify your opinion?

Mr. Lewers—To which I object on the ground that it is a hypothetical question not based on any evidence, and counsel knows no evidence can be produced in support of it, and it is misconduct and improper for counsel to bring it in on cross-examination.

Mr. Mills—Don't be sure about your grounds as to what I can show.

Q. What is your answer?

A. Absolute proof by a man that knew his business, I would say that it was a very good indication for an oil well.

Q. If that was shown to be a fact, you would regard the land in the immediate vicinity of that well as excellent oil land, would you not?

A. A 400-barrel territory is good oil land.

Q. Now, referring to the same wells near McKittrick which you say were abandoned or did not produce oil, will you please take the first well that you mentioned? What section was that on?

A. The first one was the Lucille which went out over the hills on the slope, of the extension, in front of McKittrick.

Q. Do you remember the section?

A. It must be Section 8.

Q. In 30-21?

A. 30-22—no, that was Section 10.

Q. In 30-22?

A. Yes sir; I think that is where the Lucille was. In those early days we had no way of knowing—this wasn't surveyed when I was in there—we had no way of knowing the sections. It must have been there. You can get a log of that well from Dallas at Coalinga. He is secretary of the Producer, isn't he? Who knows Dallas? Some of you ought to know

him. He was the [1492] Lucille man. R. W. Dallas, I think is his name.

Q. Did you mention a well in Section 1 of Township 30-21?

A. No sir.

Q. Did you mention a well in Section 12, Township 30-21, in your direct testimony?

A. Yes; McKittrick Oil Company.

Q. What did you say about that well? Was that one that you say was abandoned?

A. Yes.

Q. Do you know of a well immediately north of that in Section 1 of the same township and operated by the McKittrick Oil Company or drilled by the McKittrick Oil Company?

A. No; they had a well on the crest of that hill. I could point out that well to you there.

Q. Did you mention a well in Section 6 of 30-22?

A. Yes sir; the Sea Breeze.

Q. Isn't it a fact, Mr. Howk, that on Section 1 in Section 12, of Township 30-21, and in Section 6 of Township 30-22, there were successful and producing wells drilled by the McKittrick Oil Company and by the Nacarimo Oil Company and by the U. S. Oil Company, and that the U. S. Oil Company at the present time is selling oil from those wells?

A. They have thick oil there.

Q. And that is right where you say the wells were abandoned?

A. The Sea Breeze on the extreme south end of 6,—the Sea Breeze abandoned that well.

Q. Don't you know on Section 6 they are selling oil now from a producing well, or do you know it?

A. I know that the Nacarimo have oil there.

Q. Do you know that they are selling oil?

A. No; I don't know that.

Q. Are you willing to testify under oath that they are not [1493] selling oil from that well?

A. I have not been there; I don't know.

Mr. Lewers—There is no need of getting that manner of addressing a witness. I protest that it is unfair to him—

Mr. Mills—I know it is not necessary for you to teach me how to examine the witness.

Mr. Lewers— —to examine a witness in that way.

Mr. Mills—I don't think Mr. Hawk is taking any offense at my manner?

A. No; I consider that you are very much interested.

Q. Mr. Hawk does not need your protection. He is well able to take care of himself.

A. I know that the oil is very heavy in there.

Q. The McKittrick Oil Company had a contest with the Southern Pacific Railroad on Section 1 in 30-21, didn't they?

A. I don't know.

Q. At a time when the railroad company endeavored to get the land in that section. It was an odd-numbered section. They were trying to get it under

the railroad grant conveying agricultural land. And the McKittrick Oil Company wanted it for oil purposes. Do you know anything about that contest?

A. No sir; I don't know anything about it.

Q. I believe you referred in part of your testimony to a Standard well in Section 12, 32-23. Am I correct?

A. They have taken their rigs away from the center of the section.

Q. Don't you know, as a matter of fact, that the Standard Oil Company has on the northeast corner of that section in Township 32-23, one of the best wells in the field?

A. Yes.

Q. You don't want it to appear that because they took some casing out of one well in that section, that your testimony shall [1494] condemn that section as an oil proposition, when they have one of the best wells in the field there?

A. That is a little over a quarter of a mile, isn't it?

Q. Yes.

A. Then there is that sand again, as you say, continues going up, and shows that it goes up there.

Q. Do you want to condemn that section because they abandoned one well?

A. I condemn no section at all.

Q. As a matter of fact, has it been your experience that in an oil field where you say the true test is the drill, that a drill which goes 1700 feet proves

anything as to the territory beneath that drill at 1800 feet?

A. It is all owing to the formation. That would take a chemist.

Q. You mean a geologist?

A. A chemist.

Q. Then you would have to get an expert chemist after the drill stopped at 1700 feet, to see if there was oil at 1800 feet?

A. If it was on the same formation, it ought to show some little indication that might be below there.

Q. When you stop a rig at an arbitrary 1700 feet, do you go and get a chemist to see if there is oil at 1800 feet?

A. No; they don't generally do it.

Q. Do you think they might do it?

A. That is a question. That is another hard question.

Q. Assuming that the drill has stopped at the 1700 foot level and the tools blew out, you say now, as I understand you, that with the use of a chemist he could tell whether if that drill had gone a hundred feet further he might have struck oil?

A. No; I don't say that he could tell. There might be an [1495] indication of gas below that, 50 or 20 feet or 10. And there might be a clay formation which would shut everything off.

Q. Does the drill in your opinion as an oil man, prove anything lower than the place where it stops,

as to whether the land below that contains petroleum or not?

A. Absolutely no.

Q. Chemist or no chemist?

A. Chemist or no chemist.

Q. As a matter of fact, in each one of these wells in which you say the company pulled their casing and abandoned the well, if the drill had gone further it might have struck oil?

A. Yes.

Q. So all it proves, according to your idea as an oil man, is that at that particular spot for the distance at which the drill stopped there was no oil?

A. That is all.

#### REDIRECT EXAMINATION

OF

R. K. HOWK

By Mr. Lowers—

Q. In your experience have you found that there was a gentle undulating blanket of oil sand lying under all of any given territory as developed by wells?

A. Uniform, you say?

Q. Yes.

A. No; it has proven different by the drill today. As I explained earlier to Mr. Mills, on these anticlines, going on either side, you go to a depth that shows in our flat country, that, as you say, the oil would follow out.

Q. Is it not a fact that in many cases where ac-

according to the estimates, the oil-sand ought to be struck at a particular depth, judged by other wells, that the drilling at other places [1496] has not even shown sand, let alone oil?

A. There are cases, yes. They are still in the shale in some of them that they have abandoned. Mr. Crandall has two or three experiences that way. The Golden Gate has that experience and they are not far from producing wells. Still further on the Honolulu people got the oil.

Q. Then if the assumption made by Mr. Mills that the sand is deposited uniformly over the bed of that entire sea as it originally existed, is not correct; and if the proper assumption is that the sand containing oil would be found near the shore lines, you would expect if you got out from the shore lines into the fine sand too fine a sand for oil? Is that correct?

A. In what way? I want to get that.

Q. Mr. Mills has made the assumption as a geological fact that sand was deposited uniformly over the entire bed of the San Joaquin Valley from mountain to mountain by the original inland sea. Suppose, instead of that being the fact, that the coarse sand which carries the oil was deposited only near the shore lines by the ordinary processes of erosion and sand deposits. Isn't it a fact that as you went out further you would get finer and finer sand and finally it would be a fine silt or mud and not have any oil at all?

A. It would seem that way.

Q. In 1904 would you agree, from what you knew of the entire situation in that country, with Mr. Youle's statement that the Elk Hills were the best oil proposition around there?

A. I wouldn't agree with him. I couldn't.

Q. Do you know anybody that considered that at that time?

A. I do not.

Q. Did Mr. Youle endeavor to do any work out there to your knowledge?

A. Not to my knowledge. [1497]

Q. Did he ever tell you in all your conversation with him that he considered the Elk Hills the best oil country around there?

A. No; I don't think we ever spoke of it. Not to my recollection.

Q. Did Mr. Blodget, when he was endeavoring to interest you in the Elk Hills, say anything about Mr. Youle thinking that was a fine oil country?

A. Not that I know of; not that I can recollect.

Q. Basing your answer upon your entire experience in that field and upon everything that you have observed, not only in connection with the Elk Hills but in connection with the surrounding territory on the West Side that you are familiar with—would you today be willing to spend any money in the Elk Hills for an oil well?

Mr. Mills—Objected to as not only immaterial, but the witness has not qualified himself sufficiently in

oil geology to pass on the question with any degree of safety to himself or his friends.

A. I couldn't go there and drill for oil, no, knowing what failures have been made now.

Q. By Mr. Lewers—Is that known oil territory today in any commercial sense?

A. Not that I ever saw. And I have been to those wells. Not commercially.

Q. Is the discovery of oil in a well equivalent to making money out of that well?

A. Oh, no.

Q. What proportion of the wells, in which oil is discovered pay?

A. That is a hard question.

Q. Approximately. I know you cannot give it accurately. [1498]

A. That is a very hard question. That date I have not followed up. There is a man who could tell better than I.

Q. Referring to Mr. Martin?

A. Yes. That is his business.

Q. But he won't.

A. If he asked me what a piece of pipe was worth, I could tell him. But that is a very hard question. Depth governs one part of it. Quantity at that depth governs another. And the cost in that locality. That is the only way I can answer that question.

Q. By Mr. Mills—And the price of oil and so forth?

A. Yes sir. That is a very difficult question. Un-

less you go to the actual data it is a very difficult question.

Q. By Mr. Lewers—Did I understand you to say in answer to Mr. Mills that your observation had shown out there in the Midway field that at one place you would have deep wells producing oil and a short distance from there shallow wells in which the water came in?

A. On 25 Hill we have water. Then we go down and we have the wells of the Standard 30 off towards Maricopa, and then we get down into water.

Q. In the middle of the valley?

A. Where it runs off 25 Hill into 35 Hill anticlinal in an easterly direction.

Q. So far as the occurrence of oil is concerned, could you term that field spotted?

Mr. Mills—Objected to as extremely leading and suggestive.

A. It is spotted as to where you get the oil, on account of the so-called dip of this formation where they find the oil.

Q. By Mr. Lewers—Do you know any oil field that is not spotted, so far as the occurrence of oil is concerned?

A. No; I do not. The Kern River comes the nearest to being [1499] in that class of not being spotted, because it is a sort of a blanket—of uniform depth, I mean.

RECROSS EXAMINATION  
OF  
R. K. HOWK

By Mr. Mills:

Q. What do you mean by "spotted"? Do you understand what the term is?

A. Holes that don't produce commercially.

Q. Then you mean where the persistence and uniformity of the oil-sand is interrupted by some intrusion underneath the surface, and a well is sunk where that intrusion occurs? That is what you mean by "spotted"—where it would come in a dry hole?

A. The Midway field is so large—that strike along where the production first came and they have been developing out—the only way to answer that in this dipping from this one side of the valley to the other, there may be a place where you would get it at 2000 and in another place you wouldn't get it at 6000.

Q. You don't mean that anybody went 6000 feet, do you?

A. No; I do not.

Q. You are using those as arbitrary terms?

A. Yes; that is all. It would make it spotted as to getting your oil, because in one place you get it and in another it would be too deep for you.

Q. If you got water in place of oil—in a syncline—would you call that a spot in your definition of spots?

A. No.

Q. What would that be? A mere speckle?

A. A mere speckle.

Q. As a matter of fact, you never heard the word spotted [1500] used in that connection?

A. No. In other words, a great many wells don't produce at all. It might be they are, as you say, buggered.

Q. That is, some mask as to the true character of what the well produced?

A. Yes.

BENJAMIN M. HOWE, called on behalf of the defendants, having been first duly cautioned and sworn to testify the truth, the whole truth, and nothing but the truth, testified as follows:

#### DIRECT EXAMINATION

By Mr. Lewers:

Q. Your home is in Los Angeles, is it, Mr. Howe?

A. Yes.

Q. Where is your office in Los Angeles?

A. 401 Union Oil.

Q. Are you connected at the present time with any oil companies?

A. Yes sir; several.

Q. Will you state which companies they are?

A. The Sqaw Flat Oil Company, operating in Ventura county; Pan-American Oil Company and Pencland Union Petroleum Company operating in Maricopa.

Q. What connection did you have with those companies? In what official way, if any?

A. Secretary and manager.

Q. Are any of those companies actually producing oil at the present time?

A. We have a small production in Ventura county, and we are ready to bring in wells in Maricopa.

Q. How long have you been engaged in the oil business, [1501] Mr. Howe?

A. About eighteen years.

Q. And where?

A. California altogether.

Q. And what fields?

A. I worked in Los Angeles, Kern River, in the West Side fields and in several counties along the coast, wild-catting.

Q. You have referred to working in several counties wild-catting. Do you mean by that prospecting for new fields?

A. Yes sir.

Q. Have you had any experience in connection with the actual operation of drilling?

A. Yes sir; I have worked in all branches of the business.

Q. And when did you first begin working in the actual drilling work?

A. About 1898.

Q. 1898? And where was that?

A. Drilling for water-wells at San Bernardino. I dressed tools previous to that.

Q. When did you have your first experience in

the actual drilling for oil, as distinguished from water?

A. Your first experience is when you are dressing tools, in the Los Angeles field. You very often work in the driller's place in that capacity.

When did you first go to the West Side field?

A. I went to the Kern River fields in December, '99; and then I went in the spring of 1900 over to San Luis Obispo County and returned to the Kern River field in October, 1900, and worked there until March, 1901, and then went out to the West Side field on Section 24.

Q. In what township?

A. 32-23. [1502]

Q. How long did you work there?

A. I stayed there until the latter part of May.

Q. Of that year?

A. Yes sir.

Q. And when did you return to that country?

A. I returned in March, 1908, to the Sunset field again.

Q. During that first period when you were in there in 1901 were you at McKittrick at any time?

A. Yes sir.

Q. Will you state generally over what portion of that country you went?

A. Well, I went out there in March, 1901—I had charge of the Kern Crude Oil Company, they call it, I believe. Captain Lucy was manager at that time. I had charge of the work and running one tour. I

had my own team there and while we were off tour I was over a good deal of country over at McKittrick and the Buena Vista Hills and the Elk Hills, looking to see if we could find land that looked favorable for oil purposes, to make some locations.

Q. As the result of those trips did you make any locations?

A. I made no locations in the Elk Hills. I saw nothing there that would lead me to infer that it was worth while to go in there.

Q. At that time was there anything going on in the Elk Hills?

A. No sir.

Q. Were there any locations in there that you observed?

A. There were locations made in there at that time, but on what sections I would not be in a position to state now.

Q. What work was being done at that time on any of those locations?

A. About all the work that was done that I could see was [1503] the posting of the location notices.

Q. Now, what was the effect of the discovery of oil in Kern River field on the location of ground in that county?

Mr. Mills—That is objected to as immaterial.

A. Simply to stimulate the people into the idea, after seeing the rapid development in the Kern River field, that the possibilities of the oil business were great, and, like all districts, they would locate the

country for miles and miles around on the chance that it might develop later into oil.

Q. And what sort of persons went in on these locations?

A. Most any one that could get in. It was not confined alone to oil men, but a lot of the business men and clerks and people around Bakersfield would go out and file locations—people that knew nothing about the oil business would go out there and take a chance.

Q. At the time when you entered in 1901 where was the actual oil production at McKittrick, generally?

A. Right close to the town there, back in that little narrow strip south and west. The Shamrock well was there, I think, and there were two or three companies operating there by Laymance. I don't know whether E. J. Miley was connected with the oil companies operating in there back of the town or not. They were drilling in there.

Q. And what was the condition, so far as development was concerned, down toward the Midway at that time from McKittrick?

A. There was very little development between what was known as Taft now and McKittrick. There were a few rigs scattered in there, but the one producing well was on Section 22, the old Bay City.

Q. In what township?

A. That would be 32-23. That would be two miles west of where I was. [1504]

Q. And what was the general impression, if you know, amongst oil men as to where the oil was at that time?

A. It seemed to be the general opinion that it was confined to the hills on the west side of the district there.

Q. You mean by the hills, the Temblor Range?

A. Yes.

Q. Were the Elk Hills at that time considered by oil men in that vicinity as being oil land?

A. I never heard any one state that it was considered to be oil land.

Q. Were you in touch with oil men in that vicinity while you were there?

A. Yes sir.

Q. When was it, if you know, Mr. Howe, that the attention of actual developers was directed toward the Elk Hills?

A. Not until about 1910. That was stimulated from the discovery of the oil—

Mr. Mills—Just a moment, Mr. Howe. I object to the witness volunteering anything not responsive to the question.

Q. Mr. Lewers—I will ask you, by what was that stimulated?

A. By the discovery of oil in the Buena Vista Hills.

Q. On what properties?

A. On Section 10. I think it is by the Honolulu people.

Q. What effect did that discovery have on the Elk Hills?

A. It caused a good many locations to go into the Elk Hills district, from the fact that the Buena Vista Hills were covered by locations being held by the Honolulu people, and that there was no available territory there, and the only open territory was to the north through that flat between the Buena Vista and the Elk Hills, and in the Elk Hills.

Q. And what companies went in there that you know of, into the Elk Hills? [1505]

A. The Hale & Heffner. Their locations were on the south side of the hill. The Hart Crude Oil Company was in there.

Q. Who else?

A. I don't know all the locators through there. They had the Barnadon Oil Company that had a series of sections in the Elk Hills, and the Associated was there.

Q. The Associated Oil Company?

A. Yes.

Q. Was there a company called the Scottish Oil Company?

A. There was quite a lot of oil companies in there. I kept no track of all the oil companies that were operating in there.

Q. When were you last in there?

A. It would be about a year and a half ago.

Q. You have not then examined the territory recently?

A. No sir.

Q. In your opinion, is the Elk Hills oil territory?

Mr. Mills—I object to that question for the reason that the witness has not yet qualified himself as competent to pass an opinion upon the Elk Hills territory.

A. I wouldn't call it oil territory.

Q. By Mr. Lewers—Do you remember the names of any of the early locaters in the Elk Hills? Particularly, do you remember a man by the name of Bartlett?

A. Yes; I remember there was a Bartlett that had a quarter-section of land in there on contract with the locaters.

Q. When was it that Bartlett was in there?

A. That would be in 1901.

Q. Where did Bartlett come from?

A. He came from Boston originally, I think.

Q. What did he do in there?

A. He promoted several oil companies in and around the Sunset field. He acquired, I think, a 40 or 60-acre lease in [1506] the Sunset district. He partitioned it off into small holdings and organized several oil companies. His method to increase his acreage would be to acquire outside land. One company, I know, particularly, had a quarter-section of land—

Mr. Mills—I again object to the witness volunteering any statement not responsive specifically to the question asked.

Mr. Lewers—This is responsive. You may proceed.

A. —to increase the acreage of the companies which he organized. In one of the companies he had a quarter-section of land in the Elk Hills. What section it was, I do not now remember.

Q. Did he have any oil on any of the land down near Sunset?

A. Yes sir.

Q. You mean he had the oil down there and the land up in the Elk Hills, and sold stock on that?

A. Yes sir.

Q. Did he invest any money in development in the Elk Hills?

A. He had no investment at the time.

Q. How was your attention directed to that matter?

A. It was called to my attention through my wife's uncle who was a resident back in Massachusetts, whom Mr. Bartlett was seeking to have invest.

Mr. Mills—I object to that as wholly irrelevant and immaterial.

Mr. Lewers—You may remember Mr. Bartlett was referred to by Mr. Blodget as one of the men that went in there.

Mr. Mills—I don't doubt that at all, but it is wholly irrelevant about the witness' relative back in Massachusetts.

Q. By Mr. Lewers—Now, Mr. Howe, basing your answer upon your experience in the oil business and

in the oil fields, what, in your opinion, is the practical utility of geological experts in determining the existence of oil in undeveloped territory? [1507]

Mr. Mills—Objected to for the reason that the witness has not shown himself qualified in any way to pass any such opinion.

A. Well, the people that make a study of formation have to base their opinions, of course, wholly and exclusively, on the surface indications. Very often they are badly fooled in their deductions. They can see no further into the ground than anybody else.

Q. By Mr. Lewers—How can you determine whether there is oil in the ground?

A. By actually drilling a well reaching the formation which the expert tells you is the oil formation, it will prove whether there is oil down in the sand or whether the sand exists at that point or not.

Q. And in your opinion can that be determined in any other way than by the drill?

Mr. Mills—Objected to because the witness is manifestly incompetent to judge, from the evidence he has already given, as to whether it can be determined in any other way or not.

A. Deductions can be made from the surface indications that the formation extends and is in place, but that is not necessarily proven to be the case.

Q. By Mr. Lewers—Have you had any experience in testing out the predictions of geological experts?

A. I have been out on several wells which were located and drilled on the strength of experts examining the ground.

Q. What experts do you refer to?

A. Mr. Arnold.

Q. Mr. Ralph Arnold?

A. Ralph Arnold.

Q. Any one else?

A. Mr. King. I think the name was.

Q. What is his first name? [1508]

A. I think it is J. N. I am not sure.

Q. Where was it that you had this experience in connection with the prediction made by Mr. Arnold?

Mr. Mills—Let me interpose an objection to the immateriality and irrelevancy of that question.

A. The Vallecitos district.

Q. By Mr. Lewers—Where is that?

A. San Benito county.

Q. Did you find any oil?

A. No sir.

Q. And was the position of those wells indicated by the advice given by Mr. Arnold?

A. One of the wells drilled in that locality was.

Q. And was the depth indicated by Mr. Arnold at which oil would probably be found?

Mr. Mills—Objected to as extremely suggestive and leading.

A. Yes sir.

Q. By Mr. Lewers—And was oil found at that depth?

A. No sir.

Q. Was any oil-sand found at that depth, if you know?

A. No.

Q. Were you in any part of the West Side country, in 1904, Mr. Howe?

A. I was there in the fall of 1904, I think, for a few days—at McKittrick.

Q. And at that time were you over in the Elk Hills at all?

A. On the western edge of them.

Q. For what purpose did you go over there on that occasion?

A. I went down to look at some land that Mr. Shepherd owned or was leasing.

Q. Do you know his initials?

A. A. D. Shepherd. [1509]

Q. By Mr. Lewers—Where was this land that Mr. Shepherd had under lease?

A. South and east of what is known as the 1901 Oil Company.

Q. Then it wouldn't be in the Elk Hills?

A. It would be right on the edge of the Elk Hills; just about on the western edge, if I remember.

Q. Will you give that section?

A. It was east of what was called the 1901 Oil Company, if I remember correctly, the name of the company. I can't recall the section.

Q. Did you make any examination of that land?

A. Yes sir; I was out there two days looking at it.

Q. For what purpose were you examining it?

A. To see whether I considered it was practical for Mr. Shepherd to hold that for future developments for oil.

Q. And what conclusion did you come to?

Mr. Mills—I object to that on the ground that the witness has not yet shown himself qualified to pass an opinion upon oil land.

A. I advised him not to drill; that I had obtained the data of the drilling in the vicinity, and it didn't look like a favorable proposition.

Q. By Mr. Lewers—Did you hear the Elk Hills discussed as being oil land at that time?

A. No sir.

CROSS EXAMINATION  
OF  
BENJAMIN M. HOWE.

By Mr. Mills:

Q. You say that in 1898 you were drilling water-wells over in San Bernardino county. At what depth is water found in San Bernardino county where you were drilling? [1510]

A. Surface water was about 60 feet. We encountered several stratas at various depths up to 600 feet.

Q. How deep did you drill there? What was the deepest well in San Bernardino county that you drilled?

A. About 600 feet.

Q. What form of rig?

A. We used a Star rig.

Q. Will you describe what the process was that was used with that sort of a rig in drilling a water-well?

Mr. Lewers—Objected to as not cross-examination and not relevant to anything in this case.

A. The Star rig is a light portable rig on the same principle as the Standard rig, with a cable system and walking-beam and the same tools, only lighter.

Q. In your experience as a driller and tool-dresser, what sort of rigs were you working on most of the time?

A. Standard rigs—oil rigs.

Q. Entirely so?

A. Yes sir.

Q. You are not a devotee of the rotary rig?

A. I have drilled wells with the rotary rigs also.

Q. In the oil field?

A. Yes sir.

Q. I understood you to say that you did all of your drilling with a Standard rig. Am I mistaken about that?

A. No; I have drilled two or three wells with a rotary rig.

Q. Whereabouts did you drill with a rotary?

A. On the wild-cat well in San Benito county, and at Hollister. I drilled several wells around Oak-

land during the summer of the earthquake, in 1906.

Q. Did you ever use a rotary rig in the West Side field at any time? [1511]

A. Yes sir.

Q. Whereabouts?

A. On Section 4.

Q. There are a great many Sections 4. In what township?

A. Section 4, 11-23.

Q. Down in Sunset?

A. Yes sir.

Q. What was your business prior to the year of the earthquake when you were drilling wells at Oakland?

A. I was drilling wild-cat wells in Santa Clara county.

Q. Have you at any time been connected with the Southern Pacific Railroad Company?

A. No sir; only as a passenger on the trains.

Q. Or with the defendant Southern Pacific Company?

A. No sir.

Q. Have you had any business relations with the Kern Trading & Oil Company?

A. No sir.

Q. Or the Associated Oil Company?

A. No sir.

Q. Or the Pacific Improvement Company?

A. The only time I had any connection with the Pacific Improvement Company is when I went down there for Mr. Shepherd.

Q. Was Mr. Shepherd connected with the Pacific Improvement Company?

A. I think he was the manager at that time.

Q. How long were you employed by Mr. Shepherd?

A. Just simply to go down and make that report.

Q. Now, you say you came from the Kern River field after you returned from San Luis Obispo, to the West Side field, in March, 1901?

A. Yes sir. [1512]

Q. What time in March was that?

A. The 15th.

Q. And you stayed there on the West Side field from that time until May of that year?

A. Yes sir.

Q. What time in May did you leave the field?

A. In the latter part of May, I think.

Q. You were there about two months and a half?

A. Practically two months and a half at that time.

Q. While you were at work on Section 24 of 32-23? Is that correct?

A. Yes.

Q. What was your business on the well on Section 24 that you referred to?

A. I was a driller and had charge of operations.

Q. Whom were you working for?

A. Captain J. S. Lucy, the manager of the company.

Q. And what was the name of the company?

A. I think they call it the Kern Crude Oil Company.

Q. Did you live on the location in Section 24?

A. Yes sir; we had our own camp out there.

Q. How far is Section 24 of 32-23 from the nearest land in the Elk Hills?

A. Section 24 would be about 8 miles, I think.

Q. Now, at that time you say it was the belief of oil men that the oil zone on the west side of the field was contained where?

A. Through that range of hills running from Sunset through the McKittrick.

Q. Did you know anything about oil formations when you went to the West Side fields?

A. What I had picked up and what I had been able to read [1513] and study from books on the subject, trying to obtain some knowledge of the different formations that were passed through, and endeavoring to obtain some knowledge of the oil country.

Q. Where have you principally learned oil geology, if you know anything about it, before you went to the West Side field?

A. Here in the Los Angeles field and the Kern River field.

Q. Now, in the Kern River field the oil formation is uniformly at substantially the same depth all over the field, is it not?

A. Very near.

Q. And within the limits of that oil zone the sink-

ing of a well will invariably strike oil, if you drill deep enough?

A. In that field, in the proven area.

Q. Now, you say that you had occasion, while you were at work as a tool-dresser drilling on Section 24 of 32-23, to go out with a team for the purpose of examining lands for their oil possibilities? Is that correct?

A. Yes.

Q. And you say you made a trip into the Elk Hills?

A. Yes sir.

Q. What month was that?

A. It would be in April.

Q. Where did you go on that trip into the Elk Hills? Just describe your course?

A. We drove through the flat there between the Buena Vista Hills, and drove around through the hills there in an endeavor to locate this particular quarter-section which I think was about what would be the center of the Elk Hills district. I don't recall the numbers.

Q. What township and range?

A. It would be in 32-21, or 32-22, or something like [1514] that.

Q. 32-21 or 32-what-22?

A. Yes.

Q. You can't remember the sections you were in?

A. I don't recall the section at that time; no sir.

Q. Don't you know as a matter of fact, Mr. Howe,

that you were from six to twelve miles away from the Elk Hills when you were in 32-21?

A. Six to twelve miles away?

Q. Yes; from the nearest land in the Elk Hills.

A. I couldn't say that that particular section of land that I was looking through would be in 32-21.

Q. You said you went to the center of the Elk Hills district, in 32-21, or 32-22?

A. Yes sir.

Q. Are you as positive of that as of any evidence you have given here this morning?

A. No; I wouldn't be distinctly positive that the exact location of the quarter-section was there.

Q. Are you as positive that the Elk Hills are located in 32-21 as anything you have testified to this morning?

A. Part of the Elk Hills is in 32-21.

Q. What part of them?

A. The eastern part.

Q. The eastern part of the Elk Hills would be in 32-21? As a matter of fact you don't know where the Elk Hills are, do you, Mr. Howe?

A. They are directly north of the Buena Vista Hills.

Q. What township and range are the Buena Vista Hills in?

A. In 32-24.

Q. So that the Elk Hills would be in 32-21, and would be directly north of it? [1515]

A. They would be in 32—it would be in 31-24.

Q. Then you are not as positive about it as you were, are you—about the location of the Elk Hills? You cannot positively state on your oath what township and ranges are included in the Elk Hills?

A. I can't describe it all; no sir.

Q. And you didn't know where much about the Elk Hills, at that time, did you, after the two months and a half experience in the West Side field?

A. I know where the Elk Hills are; I have been over them.

Q. You don't know what township and range they are in now, do you—positively?

A. No; I couldn't say positively.

Q. What were you looking for when you went into the Elk Hills in 32-21, or 32-24 or 32-22, whatever township and range you give?

A. Looking for this quarter-section of land that had been under contract by this Bartlett. I think he called it Dirigo Oil Company.

Q. Did you go in there for the purpose of looking for this quarter-section of land or did you go there, as you have testified on your direct examination, for the purpose of examining the land with a view of ascertaining whether it was oil territory or not?

A. I went in for both purposes.

Q. In passing on the question of whether it was oil territory, what indications would you look for as an oil man? What surface indications would you look for?

A. Look for the outcroppings of the oil-sands.

Q. And anything else?

A. And the shales—the shale formations.

Q. Anything else? [1516]

A. I would look to see how the formation was in place, and see if the sands were discolored from possible oil that was contained—the seepage indications.

Q. Anything else?

A. And the character of the country.

Q. Would you look for gas-blow-outs?

A. If you see those you would take those into consideration.

Q. Now, if you found oil seepages, oil-sands or croppings of sands, and gas-blow-outs, what would that indicate to your mind in a country in which you were looking for it?

A. It would indicate that it was a possible oil district.

Q. And in determining where you would place your drill, what reference would you make to the position of the oil outcroppings of sand, the gas-blow-outs, oil seepages, and so forth?

A. In the first place, you would see which way the formation was dipping underneath the surface of the ground, and then you would attempt to define the angle of the dip and see how fast it was dipping underneath the surface, and endeavor to go back on the formations to where you could reach the depth of several hundred feet with the oil bearing formations which you had found at the outcrop, to see if there

was oil contained in the sands that cropped to the surface.

Q. Then you regard it as quite important to find these indications of the cropping of sand, the angle or dip of the formation, and the structural condition, in determining the place where you would sink your drill, would you not?

A. Certainly.

Q. Have you acquired sufficient information from your reading of geology and from such experience as you have had as a driller, to know that the petroleum is contained in depositions of sand, which are uniform and persistent in an oil field?

A. Yes. [1517]

Q. You understand, do you not, that these sands have been laid down by the deposition of the sea in a uniform manner over a wide area, and that when the oil migrates into these sands, it follows that sand sometimes for many miles, do you not?

A. Yes; that is true.

Q. And unless the sand is broken—that is, unless the formation in which the oil migrates is broken up underneath the surface by some convulsion or by some intrusion through strain or folding underneath the surface, you would expect that oil to be present all over that sand formation persistently, would you not?

A. It would be presumed to be.

Q. Was that the theory which you understand to

be entertained by oil men at the time you first visited the West Side field?

A. Yes.

Q. That was generally the theory, was it not, among practical oil men?

A. The opinion; yes.

Q. And where along the contact of the main, range of mountains you found stains or discolored sand croppings which you took to be oil-sand and ascertained the angle or dip off into the valley, you would expect then to find the oil following that sand formation cut under the valley and into any unlift, unless it was broken up in the meantime by something underneath the surface?

A. Unless it was pinched out.

Q. That is, where the sand itself has pinched out by the fact that it has not been deposited by the sea?

A. Yes.

Q. And wherever that sand is present and where it is not broken up by intrusions or geological disturbances underneath the surface, you would expect to find the oil present in that formation? [1518]

A. For a ways, yes.

Q. How do you determine as an oil man how far that exists? You say "for a ways." Why do you put an arbitrary limit on it?

A. Because after the outcrop has started down under the formations, it may dip down faster than it does at the surface.

Q. I say unless the angle had been disturbed by

some convulsion of nature or folding or strain, you would expect it at the same angle?

A. Most all the oil fields—

Q. Just answer my question.

Mr. Lewers—Just allow him to answer.

Mr. Mills—I will allow him to answer my question at all times.

A. I was going to explain what I meant by “for a ways.” In nearly all oil fields, the sand has a certain limit for oil, and when you pass that limit it is water.

Q. That water is generally found in the synclines, isn't it?

A. Yes.

Q. Water is heavier than oil?

A. Yes sir.

Q. And has a tendency to force the oil up onto the sides of the anticlines?

A. Yes sir.

Q. Do you know enough about geology and geological conditions in the Elk Hills now to say on this record whether the Elk Hills are a structural fold, unbroken by any disturbance visible at the surface.

A. No; I couldn't say.

Q. Do you know?

A. No.

Q. Was your examination in such detail that you can now [1519] state whether that is a fact or not a fact?

A. I couldn't make that statement from the fact that it requires a longer period of examination of the territory than what I was able to give it, to give any thorough testimony in regard to the country.

Q. How much of an examination did you give the Elk Hills at that time?

A. I was through that locality on numberless occasions. I had my own team.

Q. Do you mean a number or numberless?

A. I was possibly there through that district ten or fifteen times.

Q. I mean in the two months and a half that you were in the West Side fields.

A. I was probably in the hills ten or fifteen times.

Q. Did you on any of those occasions get onto what is known as Section 32 of 30-24?

A. I couldn't say that it was that exact section.

Q. You know, do you not, that there is an extensive oil cropping or gas blow-out in the North-west quarter of Section 32, 30-24?

A. I heard of that; yes.

Q. And you knew of that in the two months and half that you were in the West Side fields?

A. No; I couldn't say that I did.

Q. You didn't know about that at that time?

A. No sir.

Q. You yourself in looking for indications of the presence of petroleum in there either in the Elk Hills or the Buena Vista Hills, which I understand

you did,—did you go into the Buena Vista Hills also?

A. Yes sir. [1520]

Q. Before I complete this question, did you find evidences—conspicuous evidences—of a gas blow-out or oil-cropping in the Buena Vista Hills in Section 11 of 32-24?

Mr. Lewers—Objected to as indefinite. Do you mean gas blow-out or oil-cropping? They are not the same thing.

A. There is a sand blow-out there, evidently from gas.

Q. By Mr. Mills—Did you discover that at the time you went in your peregrinations about that field in those ten or fifteen trips that you took in those two months and a half?

A. Yes sir; I was there in the Buena Vista Hills.

Q. You saw that?

A. Yes sir.

Q. What did that indicate to you as to the oil geology of that particular region?

A. It would indicate to me more presence of gas than oil.

Q. Do you mean to draw a distinction between gas and oil? That gas is present where there is no oil?

A. Yes sir.

Q. And from your geology, as you understand it, in that particular field, you may have gas where there is no oil anywhere?

A. Yes sir.

Q. Is that your understanding?

A. Yes sir.

Q. You don't see any connection between the gas and the oil, do you?

A. There is a connection; yes.

Q. What is the connection?

A. Gas in some localities is in what they call the domes of the oil-sand.

Q. What is a dome?

A. It would be the upraise of the oil-sand. [1521]

Q. Such as on the Buena Vista Hills?

A. Yes sir.

Q. Or in the Elk Hills?

A. Yes sir.

Q. That is where the formation has been lifted up by some structural stress of the interior, and folded up there? Is that correct?

A. Yes sir.

Q. Now, where you find gas in a dome such as you have described, in the Buena Vista or Elk Hills, what connection then would that have with the oil? Where would the oil be with reference to the gas?

A. It would be at the lower level.

Q. But you would find in every instance, would you not, in that field where you find gas coming from a dome of that kind, oil beneath it?

A. You would find oil at probably a considerably lower depth.

Q. But it would be there somewhere, wouldn't it?

A. But it might be quite a ways from there.

Q. But it has an ultimate connection at some point?

A. Yes.

Q. So that gas, in your opinion, from what you read of oil geology, has a distinct connection with oil or petroleum?

A. Yes sir.

Q. Then you would say, would you not, that a discovery of a gas blow-out in the Buena Vista Hills would be an indication to you that there was at some point petroleum, or there would not be that connection?

A. There must have been oil somewhere within a reasonable distance of that gas blow-out. It might be several miles.

Q. Then, if you found a gas blow-out such as that over in [1522] the Elk Hills, you would form the same opinion about the Elk Hills that you did about the Buena Vista Hills, would you not?

A. That might be a gas property, or you might take that same indication, after you saw the gas blow-out, and figure that at some distant time back it had been an oil formation, and through some disturbance of nature of some kind the oil had been burned out, and it would be a burned out oil-sand which contained no oil.

Q. That is to say, that the oil got out and burned, do you mean?

A. That is, from some cause in nature, the sand was denuded of the oil which might have been there centuries ago.

Q. Do you mean waste of oil by evaporation or actual ignition or burned by fire when you say burned out?

A. I wouldn't say—that is an expression they use.

Q. You have no precise idea of just what is meant by that, do you,—by burning out? You don't know whether it is from conflagration or whether it is from natural waste by evaporation?

A. We figure that it is the natural waste.

Q. Did you find this oil seepage or cropping of sand that you heard of on the occasion that you went out to the Elk Hills?

A. No.

Q. And you didn't find any other indications of oil?

A. No sir.

Q. Now, assume that you had found this indication on any one of those trips—this oil seepage in Section 32 of 30-24—what would that have indicated to your mind at that time?

A. If I had discovered gas blow-out?

Q. Yes.

A. Well, it would have indicated that there might be a possible chance for an oil district there.

Q. And on such evidence as that, if you were looking for [1523] oil land to locate it, would you have made locations?

A. I might have made locations, but I doubt if I would have invested any money in it.

Q. You were not a man of very large means, were you?

A. I was in a position to command some money at that time.

Q. How much money could you have commanded at that time?

A. I could have raised twenty-five or thirty thousand dollars for development.

Q. How far do you think twenty-five or thirty thousand dollars would go toward developing territory over in the Elk Hills, assuming that the oil formation is at least 2500 feet deep?

A. It would go a very small way.

Q. So your ability to command \$25,000 would not have helped you much in the development?

A. Not at that time; no.

Q. Assuming that the petroleum deposits which are in the Elk Hills are at a depth from twenty-five to thirty-five hundred feet, or in excess of that, from the surface, would you regard that as a territory for a poor man to let alone?

A. Yes sir.

Q. It would be, in your opinion, a territory to be developed by men of considerable capital, would it not?

A. It would require considerable capital to develop it.

Q. Would you regard a well in the Midway-McKittrick field producing 406 barrels on the gauge, measured for several days, as a good or bad well?

A. For how many days?

Q. Well, for several days, before it was shut down.

A. Several days? What do you mean? Two or three days or thirty days?

Q. I mean two or three days.

A. I would not consider on that test that there was oil in [1524] paying quantities in that well.

Q. Would you regard it as an oil territory?

A. I would regard it as a favorable indication, to be demonstrated by a test of from thirty to sixty days.

Q. Will you please read the last question? (The reporter reads the question.) Would you regard it as an oil territory?

Mr. Lewers—Objected to as indefinite. What do you mean by “an oil territory?”

Mr. Mills—Never mind what I mean. I will conduct this examination.

Mr. Lewers—I submit that the question is unfair unless you can define what you mean by an oil territory. The witness has answered that it is not a commercial oil territory.

Mr. Mills—I call your attention to the fact that you frequently interrupt me in my examination and are always solicitous for plenty of leeway when you are examining witnesses yourself. I am not trying to mislead the witness. You can understand the question?

A. You mean as a commercial oil territory—

Q. No; I mean an oil territory. I am not talking about producing in paying quantities at all. Would you regard it as oil territory, if the well produced for two days or three days on the gauge 406 barrels of oil?

A. I would regard it as a possibility.

Q. Would you regard it an oil territory, is the question. Say yes or no, will you?

Mr. Lewers—I object to that manner of examination.

Mr. Mills—I am entitled to a categorical answer.

Mr. Lewers—I object to that as asking for a categorical answer to a question which no sensible oil man is expected to answer. Oil land may mean a drop of oil in ten miles—

Mr. Mills—This furnishes you an opportunity for another [1525] long speech, and the record will bear me out that your interruption is to prevent the witness from answering the question.

Mr. Lewers—I protest against that.

Q. By Mr. Mills—Have you any objection to the question, Mr. Howe?

A. Well, the proposition is this. When you talk about oil territory, I look at oil territory as a proposition that is going to pay you. If it does not pay you, I wouldn't call it oil territory.

Q. Eliminate the proposition of commercial productiveness in paying quantities. Would you regard it as an oil territory?

A. Well, if the territory produced oil, you would have to say that there is oil there.

Q. Assume that you have a coal mine which had a measure of bituminous coal eight feet in thickness, of high quality, covering 160 acres of land, which cropped at the surface with a gentle angle. Would you call that a coal property?

Mr. Lewers—Objected to as not cross-examination.

A. I would.

Q. By Mr. Mills—You would not put the qualification on it that it was commercially profitable, would you?

A. Not when you try to define it as coal territory, no.

Q. If it is five hundred miles away from a railroad and it cannot be produced at a profit, would you still say it was coal territory or not?

A. Certainly. The coal would be there.

Q. And the same about oil? If the oil is there, whether it can be produced in commercially paying quantities or not, it is oil land, is it not, in your opinion?

A. It has oil on it; yes. If you produce it from the territory, there is certainly oil there. But the question of a commercial— [1526]

Q. I didn't ask you anything about commercial. You inject that yourself. I just asked you whether it was oil territory. Now, as a matter of fact, Mr. Howe, if you found that on Section 24 and on Sec-

tion 26 of one township in the Elk Hills they had discovered oil, and that on another section cornering on Section 26 in the adjoining township in the Elk Hills they had produced a well which showed on the gauge for at least two or three days 406 barrels daily, and that afterwards this well was shut off so that it could not produce if it wanted to, would that modify your opinion about the Elk Hills as an oil territory?

Mr. Lewers—Objected to as a hypothetical question not based on any evidence in the case and contrary to the evidence in the case.

A. For that immediate vicinity.

Q. By Mr. Mills—To what extent would it modify it? Would you regard that immediate vicinity as good oil territory?

A. Not till it was further demonstrated.

Q. I am placing limitations in my question. Read the question again. (The reporter reads the question) What do you say?

Mr. Lewers—I submit that it has been answered.

A. The existence of the oil there has been demonstrated, but when you take it as an oil territory, as I am looking at it, on a commercial basis—

Q. By Mr. Mills—You wouldn't regard the land immediately under that drill even as oil territory, would you, Mr. Howe,—in the hole itself—you would not regard that as oil territory?

A. I would say there is oil there; certainly.

Q. But it is not oil territory in your opinion?

A. It is not oil territory unless it is a commercially paying proposition.

Q. Is it oil land? [1527]

A. You can call it oil land; yes sir.

Q. Well, I am very much obliged to you for that concession. Have you any prejudice against the government in this suit?

A. I don't know that I have.

Q. You don't know that you have? Do any of your neighbors know?

A. No sir.

Q. Have you had any trouble with the government in any way about the location of lands?

A. No sir.

Q. You are not sensible now of any particular prejudice against the government and in favor of the railroad company in this litigation?

A. No sir.

Q. When did you first hear of this litigation?

A. Several months ago.

Q. How did you hear about it?

A. Through the medium of the newspapers—the California Oil World, which I take.

Q. When were you first notified that you might be a possible witness in this case?

A. Possibly two months ago.

Q. Who notified you?

A. Mr. Jeffers.

Q. Where did he see you?

A. I think I met him at Bakersfield.

Q. What did he say to you at that time?

A. He asked me if I had ever been out to the West Side.

Q. Did he tell you what the railroad company would like to prove out there?

A. He told me—

Q. Answer that question, if you will. [1528]

A. What was the question?

Q. Did he tell you what the railroad company wanted to prove in the Elk Hills?

A. He told me they wanted to hold their title to the land.

Q. Did he tell you what they wanted to prove as to the Elk Hills?

A. I don't know that he did definitely.

Q. You don't know that he did?

A. No sir.

Q. Did he tell you that it was the purpose to get somebody to condemn the Elk Hills as an oil territory?

A. He told me that the railroad company wanted witnesses who had been out in the territory, as to what their opinion was as to the land—if it was oil land or agricultural.

Q. And at that time did you tell him that you had had the rich experience of two months and a half in the West Side fields in 1901?

A. Yes sir; he asked me if I had been in that locality.

Q. And you told him about the vast experience that you had over there in two months and a half?

A. Yes sir.

Q. And that you didn't find any oil?

A. Yes sir.

Q. And that you were willing to come down here and tell all about that? Is that correct?

A. He asked me if I would come and I told him yes.

Q. When did it first occur to you that you had been in the Elk Hills in 1901? Who suggested the date to you? Who suggested the date 1901?

A. It didn't require any suggestion, because I knew that I had been there.

Q. I am speaking now as to whether it was suggested at that [1529] time by either you or Mr. Jeffers as to the importance of your having been there at that certain date. Was that suggested?

A. No sir.

Q. How many times did you ever talk to Mr. Jeffers?

A. I saw him twice.

Q. Both times in Bakersfield?

A. I saw him in my office at the Union Oil.

Q. When did you have your talk with Mr. Lewers?

A. I saw Mr. Lewers this morning.

Q. Is that the first time?

A. Yes sir; the first time I ever met the gentleman.

Q. You had two months and a half experience on Section 24 of 32-23 on the West Side field in 1901, during which you went with a team several times into the Elk Hills and the Buena Vista Hills?

A. Yes sir.

Q. And you never came back to that field until March, 1908? Is that correct?

A. That is correct.

Q. And on that you are willing to go on record here as saying that in your opinion as an oil geologist—

A. I don't claim to be an oil geologist.

Q. —that the Elk Hills is not an oil territory?

A. I would consider it not to be oil territory.

Q. You are perfectly willing to say that notwithstanding all the development and the fact that they brought in a well there with 406 barrels a day—you are still willing to say that it is not oil territory in any part of it?

A. In that immediate vicinity where they have got the 406 barrel production there may be a small pool there of oil territory. The development over there has not shown it. [1530]

REDIRECT EXAMINATION  
OF

BENJAMIN M. HOWE.

By Mr. Lewers:

Q. Have you any other information than the particular statement of Mr. Mills that there is a 406-barrel well?

A. I have no other information.

Q. And your answer is made on the basis of the proposition made by Mr. Mills?

A. Yes sir.

Q. Mr. Mills has given a good deal of attention to having that land characterized as oil land because there is some oil there. Is that what an oil man calls oil land?

A. No sir.

Q. What does he call oil land?

A. Oil land that has oil in commercially paying quantities—which will pay for the expenditure of the drilling of the wells and where he has a possibility of getting his money back in dividends.

Q. Are those two things the same thing? When you find oil in land is it always paying?

Mr. Mills—Objected to as wholly immaterial. The question in this case is not whether the land is oil in paying quantities. The question is whether it is mineral land and was so known to the railroad company before the land was selected.

Mr. Lewers—Unfortunately the authorities are all against you on that.

Q. Answer the question.

A. No sir; it is not.

Q. Have you had any experience in connection with drilling near a gas-blow-out for oil?

A. No sir. [1531]

Q. Are you familiar with the numbers of the townships that comprise the Elk Hills?

A. No; I can't say that I am.

Q. Do you know where the Elk Hills are themselves?

A. I know they are north of the Buena Vista Hills—a range from close to Cole's levee at the north end of the Buena Vista Lake—that range of hills running from the Lake over to McKittrick.

Q. And those are the hills that you were in in 1901, are they?

A. Yes sir.

Q. At the time when you were in there in 1901 you state that you were able to control or would have been able to command twenty or twenty-five thousand dollars? Is that correct?

A. Yes sir.

Q. Was there anything to prevent you from getting other people who were able to command money going in there with you if you had something good?

A. No sir.

Q. What is the usual practice in the way of starting wells in new oil territory, as to the thing being done by one individual or more?

Mr. Mills—Objected to as wholly immaterial.

A. It is done generally by corporations. Very few individuals would care to start on a wild-cat proposition out of their own pocket.

Q. What would you term the work done in the Elk Hills beginning in 1909 to the present time? Is that actually developed producing territory or is it something else? Do you understand what I mean?

A Most of the work done in the Elk Hills—you mean from 1909 and subsequent? [1532]

Q. Yes.

A. They brought in what they call in the oil world “dusters.” That is, dry holes—outside of the well which Mr. Mills speaks of.

Q. Now, referring to the persistence of oil sands, what has been your observation and experience in the fields as to whether there is a blanket of sand that uniformly underlies a large territory, that you can find everywhere you go? What is the fact as to that? Does that sand continue indefinitely in that way?

A. No; it thickens and thins out. Around the Maricopa district it is irregular.

Q. Is there any certainty, basing your answer on your experience in the oil business, that when you have a well in one quarter-section that is producing oil that a well a mile away from there will produce oil?

Mr. Mills—Objected to as immaterial, the way the question is constructed. It might be up in the mountains, away off of the oil-sands entirely.

A. It depends entirely, Mr. Lewers, on the position of the well and the formation.

Q. By Mr. Lewers—Well, suppose that you have a well a mile away that is, so far as surface indications are concerned, apparently on the same formation. Is there any certainty that that well will produce oil?

A. No sir.

Q. Would there be any certainty that a well seven or eight miles away from any producing well in territory that has not been developed, would produce oil?

A. No sir.

Q. And was it the general belief amongst oil men in the early days in 1901 when you were in there, that if a well was sunk 6 or 7 or 8 or 10 miles away from a producing well, that [1533] there would be any probability of finding oil?

A. That was not the feeling; no sir.

RECROSS EXAMINATION  
OF

BENJAMIN M. HOWE.

By Mr. Mills:

Q. It is a fact, is it not, Mr. Howe, from what you know of the Elk Hills territory and the development there at the present time, that the Associated Oil Company has made three oil discoveries in three different sections of land instead of one, as you have stated?

A. I understand they have a discovery in two, but not to my knowledge have they three.

Q. You don't know that they have discovered oil in Section 24 of 30-23?

A. They have oil in 22.

Q. Section 22? And where else?

A. And I couldn't state accurately the other section.

Q. Section 22 is altogether a new information to me. I didn't know that they had made a discovery on that section. That makes four discoveries, so far as my information goes.

Mr. Lewers—Are you testifying into this record, Mr. Mills? There has been no question asked Mr. Howe as to the discoveries of that kind. He testifies that he has not been in there recently.

Mr. Mills—I am asking the fact.

Mr. Lewers—No; you are stating the fact.

Q. By Mr. Mills—I will ask you if you know as a matter of fact from your own personal knowledge that the Associated Oil Company has or has not made three oil discoveries on three different sections of land in the Elk Hills.

A. I don't know of my own personal knowledge that they have made three discoveries; no sir. [1534]

Q. And you don't want to testify here under oath that they have not, under those conditions, do you?

A. No sir.

Q. Now, that land which you examined in 1901 was near Section 34, Township 30-22, was it not?

A. Near Section 34?

Q. Yes; of Township 30-22?

A. At what time?

Q. In 1901 when you say you went to the Elk Hills to look at this section of land.

Mr. Lewers—I submit that the question is unfair. Mr. Howe testified that he don't remember the township.

A. I don't recall the township or range or section of the land at that time.

Q. By Mr. Mills—What was the name of the property?

A. If I remember correctly, it was on the old map as the Dirigo Oil Company. D-i-r-i-g-o. I won't be positive as to that.

Q. Did I understand you to testify, Mr. Howe, that it was east of the 1901 property?

A. Oh, that was some property down in 1904.

Q. Oh, then I am mistaken about that. I withdraw that. Do you know from your personal knowledge, and is it not a fact, that all of the wells which have been brought in in the Elk Hills, got gas?

A. I don't know that they got petroleum gas.

Q. Do you know that they got any kind of gas?

A. It is very hard to drill a well anywhere that you won't get gas.

Q. Do you know that the gas came in such a quantity on the Redlands Oil Company property that it ignited and burned up the rig? Do you know that?

A. No sir. [1535]

Q. Do you know that all of those wells that you designate as dusters struck gas at some point in their drilling?

A. I know that they had gas; yes sir. In some of the wells.

Q. You have answered in response to a question of counsel for the defendant that even if you came

out on the formation from the oil-sand-cropping, and in the direction in which the angle dips, that the drilling of a successful well is not always a certainty. That is correct?

A. Yes.

Q. The successful drilling of any well, any oil-well, is not a certainty?

A. It is not a sure certainty.

Q. There is an element of hazard in drilling a well any place to get oil?

A. Yes sir.

Q. People don't go into the oil business on a dead certainty that they will make money?

A. Well, they have that inspiration that they are going to make money.

Q. They have the hope that they are going to make money?

A. Yes sir.

Q. But it is not at all certain in any oil field that any particular drill will get oil, is it?

A. Yes, it can be demonstrated that in certain locations you will get oil. That has been by lots of development previous to your entry in that particular district.

Q. Then, I understand you to say now, there are conditions, after there has been some development, by which you can go out and place a drill and be dead certain of getting oil?

A. You are morally certain. You can't be absolutely certain.

Q. And that certainty is based upon the surface indications, [1536] the dipping of the formation and the previous developments, is it not?

A. Yes; to a large extent.

Q. And it amounts to such a certainty, does it not, that it forms what you would regard, as an oil man, as a good investment proposition?

A. In asking that question do you mean going into a developed district or into an undeveloped district.

Q. I am taking it under the conditions which you have imposed. You say there are conditions where there has been some development and where the sand-croppings are favorable and the angle is favorable that there is a moral certainty that if you use judgment in selecting your spot to sink a drill you will find oil?

A. That is, in a developed district where there has been considerable development done.

Q. From that you would infer that the oil sands have some uniformity and persistence?

A. They have, yes.

Q. Let me ask you this question: Did you see the report made by the geologist, Ralph Arnold, on the well which you speak of in the Vallecitos district in San Benito county? Did you see the report made by Mr. Arnold?

A. I think I have a copy of it.

Q. Did you see the report of Mr. King?

A. I have a copy of Mr. King's report.

Q. Who was Mr. King? Where does he have his office?

A. He was located, I believe, in Fresno for a while. His report was secured by some Fresno people.

Q. Is he still here in this country?

A. I don't know where he is at present.

Q. Do you know what Mr. King's business was while he was [1537] in Fresno?

A. I think he is a mining engineer.

Q. He was not a geologist, was he? He was an engineer?

A. A mining engineer, and claimed to be a geologist and have some knowledge of the oil business.

Q. But his paramount business is engineering, isn't it?

A. That I couldn't say.

Q. Do you want to have it appear upon the record that you have no confidence in Mr. Ralph Arnold whatever as a geologist?

A. No.

Q. He is recognized on the coast?

A. He is recognized as—

Q. Is he a competent and thorough oil geologist?

A. Yes, but he is liable to make mistakes in his deductions. He is not able to see all conditions which possibly make changes in the formations he can see.

Q. Do you know of any practical oil man who is

better qualified than Mr. Arnold is to make deductions to be correct in the matter of oil geology?

A. I don't know that I know any one better than Mr. Arnold or that has any better reputation than Mr. Arnold.

Q. From that one failure which was made in Vallecitos that you have referred to, you would not say that Mr. Arnold was incompetent as a geologist to determine the successful drilling of any well?

A. No, you can't hold one failure against a man.

Q. And you have as much confidence in Mr. Arnold's opinion of oil geology as you have of any practical oil man that you know of?

A. I have as much confidence in Mr. Arnold's opinion as I have in any geologist that I know of.

Q. Either practical or theoretical? [1538]

A. Practical. Theories don't always carry out.

#### REDIRECT EXAMINATION

#### OF

#### BENJAMIN M. HOWE.

By Mr. Lewers:

Q. It is a fact, is it not, Mr. Howe, that even the best of them have to guess at it?

A. There is a certain element of guess in it.

[1539]

THEODORE TRACY, a witness called and sworn on behalf of the defendants, testified as follows:

#### DIRECT EXAMINATION

I am now living at Bakersfield where I am employed in the cigar business. I own a ranch of about

2,000 acres at Button Willow, and was first employed by Cox and Clark and later by Miller & Lux in running cattle on the range.

I am familiar with the Elk Hills and first went into them in 1875 and have been in them a great many times since then running cattle. These hills are used as a range by Miller & Lux, and many other people. I was in the Elk Hills between 1900 and 1905. At that time there was no work going on in those hills.

I was connected with some locations that were made in the Elk Hills by Si Drouillard and others but never spent any money on them.

The actual mining work began in the Elk Hills about three years ago. I never heard the Elk Hills discussed as oil territory from 1900 to 1905 and the first I heard them mentioned as prospective oil territory was about three years ago.

### CROSS-EXAMINATION

—of—

### THEODORE TRACY

I am now working in a retail cigar stand at Bakersfield, just putting in time. After I had work for others in the cattle business I was engaged in the cattle business myself but sold out about four years ago. Buttonwillow where I was located is about three or four miles north of the Elk Hills.

I have been in the cattle business since 1875. I am not a bit interested in oil development and never was interested in any other business than the cattle

business and the cigar business that I am now in. I never paid any attention to oil development. The only way I would know an oil seep from a horse doctor [1540] would be if the seep was good and strong, otherwise I wouldn't know the difference. I never was sufficiently interested in the oil business to even discuss it. I didn't care anything about what went on in the oil business around me, paid no attention to it and I don't know anything about geological oil formations.

JOHN J. McCLIMANS, a witness called and sworn on behalf of the defendants, testified as follows:

#### DIRECT EXAMINATION.

I am now living at Fellows in the West Side field. I am superintendent of the Olig Crude Oil Company and have been connected with that company since December, 1900. Prior to that time I lived in Penando County, Pennsylvania, and was engaged in the oil business there. I have been in the oil business ever since I was big enough to work—since about 1884.

I came to California in 1900 and went to McKittrick and was employed on Sec. 13 about two and one-half miles northwest of the town of McKittrick, by the Pacific Crude Oil Company. I worked for that company until 1904 when it was reorganized into the Olig Crude Oil Company. I still have charge of that property and also of property in the Midway, where they moved about two years ago. During this

time I have had practical experience in development of oil properties, but only for the Olig Crude Oil Company. I went into the Elk Hills in 1901 and was there last year and also three years ago. In 1901 I crossed along on the edge of the hills in going from McKittrick to Maricopa.

From 1900 to 1905, the oil development was along the Temblor Range. The only place where there was any oil at that time between McKittrick and the Sunset was in the Midway on Sec. 8, 32-23. Between that and McKittrick there was no development at all. While at McKittrick the development was south and west of the town. [1541]

The impression at that time amongst oil men was that the oil was very narrow and I know that they were afraid to go out one side or the other for fear they would get off the belt, and they hugged the Temblor Range pretty close. This continued to be the idea, to my knowledge, up to 1908. At that time they thought oil might be everywhere and began to take up land all over that country. They thought everything was oil land.

From 1900 up to as late as 1908, I never heard the land in the Elk Hills discussed as oil territory by people in that vicinity. Nobody ever bothered the Elk Hills, to my knowledge.

I have been in the Elk Hills twice since 1908. I visited the Associated Oil Company's property on Section 26, 30-23 a little over a year ago, at which time they were drilling but no discovery had been

made to my knowledge. I heard that there had been a discovery and visited the rigs but saw none.

CROSS-EXAMINATION

of

JOHN J. McCLIMANS

By Mr. Mills:

Q. You are what they term an oil man, aren't you?

A. Yes sir.

Q. By that you refer to an oil producer, or a man dealing in oil lands?

A. No.

Q. What do you refer to?

A. I was superintendent and operating drilling for a company.

Q. You don't mean an oil prospector or oil geologist whose particular work is the examination of lands in order to determine whether they are oil lands or not?

A. No; I am not a geologist.

Q. Your business is really and exclusively operating for the [1542] purpose of production?

A. Yes sir.

Q. After the well has been placed by somebody else?

A. After the location has been placed.

Q. In other words, you take up your work after the prospecting has been fully completed?

A. Yes sir.

Q. You yourself have never prospected any lands?

A. Not myself.

Q. And you have not located any lands?

A. No sir.

Q. In other words, you are not interested in that phase of the oil business?

A. No.

Q. You are particularly interested in the actual operation after that work has all been done by somebody else?

A. Yes sir.

Q. Then your experience and the work you would do in the operation of your particular phase of the oil business would be confined to the actual production after all the preliminary work of prospecting and locating had been accomplished?

A. I don't know what you mean by prospecting. After the location has been made. I have prospected in the same way for the Olig Crude Company. It was practically a wild-cat country.

Q. Did you do any locating there on that prospecting?

A. No sir.

Q. Your work, as I understand it, then, is taken up in the actual operation of the well and production of oil?

A. Yes sir.

Q. And that you gave your principal attention to, isn't that so?

A. Yes sir. [1543]

Q. You say that in 1901, you visited the Elk Hills on a trip from McKittrick to Maricopa. Was that merely incidental to the trip that you took, or did you have business in the Elk Hills?

A. I had a friend in Maricopa and I went that way.

Q. What townships and ranges are the Elk Hills located in?

A. You have got me. I didn't pay that much attention to it. I know where they are, but I don't know the townships.

Q. Generally, in what direction from McKittrick is Maricopa?

A. Maricopa from McKittrick is southeast.

Q. And what township is McKittrick in?

A. I would have to look at a map to find that out.

Q. Is it in 30-22, if I would suggest the name to you?

A. I couldn't say that positively.

Q. I will tell you that it is in 30-22. Township 30 South, 22 East. Where in relation to the town of McKittrick are the Elk Hills? In what direction?

A. Well, they lie almost east.

Q. About how many miles to the nearest hill?

A. The nearest hill is about three or four miles, I think. Three miles from McKittrick.

Q. And in coming down to visit this friend of yours, you crossed the Elk Hills?

A. No; I didn't cross the Elk Hills. I went

through the valley on the edge of the Elk Hills,—  
between the Elk Hills and Buena Vista Hills.

Q. To Maricopa?

A. Yes sir.

Q. Did you select the usual traveled route in  
going there?

A. Yes sir.

Q. That is to say, you went down the flat or val-  
ley between the Elk Hills and Buena Vista Hills  
in your way to Maricopa?

A. That is it. [1544]

Q. And in doing that, you selected the usually  
traveled route?

A. Well, there is two roads; One that went di-  
rect through the Midway flat, and the road that  
went down by the lake.

Q. In following out the road which you took at  
that time, as a matter of fact, if you had kept on,  
you would finally drive right into the Buena Vista  
Lake, wouldn't you?

A. Yes sir.

Q. And be some twelve or fifteen miles from  
Maricopa out of your way?

A. Not that far.

Q. Not twelve miles out of your way in Mari-  
copa?

A. No. I think there was probably five or six  
miles difference.

Q. Did you go as far as Buena Vista Lake in  
your drives?

A. Yes sir.

Q. Did you go around the eastern side of the Buena Vista Hills?

A. Yes sir.

Q. On the lake side of the Buena Vista Hills? Is that correct?

A. Yes sir.

Q. What was the valley called between the Buena Vista Hills and the Elk Hills at that time?

A. I don't know whether it had any name or not.

Q. Did you ever hear it called the Elkhorn Valley?

A. I have since that.

Q. I understand you started from McKittrick and went down the valley between the Buena Vista Hills and the Elk Hills till you come to the Buena Vista Lake?

A. Yes.

Q. And then skirted on the eastern side of the Buena Vista [1545] Hills down to Maricopa?

A. Yes sir.

Q. In doing that, you went some twenty-four miles out of your way, did you not?

A. Not to my knowledge; no.

Q. How long did it take you to make that trip?

A. I think about five hours.

Q. From McKittrick to Maricopa, via Buena Vista Lake, around the eastern side of the Buena Vista Hills?

A. Yes sir.

Q. What time did you start in the morning?

A. I started in the afternoon.

Q. What time?

A. Two o'clock.

Q. What time did you arrive at Maricopa?

A. At seven o'clock.

Q. Now, Mr. McClimans, did you keep on the road all the way?

A. I can't tell you as to that. There wasn't much road to it.

Q. Did you keep on following up what you supposed to be the road?

A. Yes; I went that way because the road through the Midway country was cut up so bad and dusty by team work.

Q. That was in 1901?

A. 1901.

Q. And you never visited the Elk Hills again un-1908 or '09?

A. 1910.

Q. And then you were in there for how long a time?

A. Just made a trip over there in a machine.

Q. From where to where?

A. From Fellows over onto 26.

Q. Onto 26, 30-23, where the Associated well is?

[1546]

A. Yes sir.

Q. From Fellows to where?

A. From Fellows over onto Section 26 in the Elk Hills.

Q. And back to Fellows again?

A. Yes sir.

Q. How long a time did you spend in the Elk Hills?

A. I was there three or four hours, I guess. I visited several rigs.

Q. Did you ever make any visit to the Elk Hills besides that?

A. One after that in 1911. Practically the same thing.

Q. Where did you leave from then?

A. The same place.

Q. Fellows?

A. Yes sir.

Q. Went up in a machine?

A. Yes sir.

Q. And spent about the same length of time?

A. Yes sir; just about the way I did before. I went with the same men.

Q. And back to Fellows?

A. Yes sir.

Q. Whom did you go with?

A. Bert Dunn of the Associated Supply.

Q. How do you spell his name?

A. Dunn.

Q. On this trip in 1901, where you took the road down the valley between the Buena Vista and Elk Hills and around the eastern side of the Buena Vista

Hills to Maricopa, and from there to McKittrick, how many miles did you traverse in those five hours?

A. I couldn't tell you that.

Q. You kept pretty busy going? [1547]

A. Yes sir.

Q. You didn't stop anywhere?

A. Not to speak of at all. I stopped at the upper end of the lake.

Q. You didn't stop off, peradventure, to go up and make a trip into the Elk Hills?

A. No sir.

Q. You kept right along busy on that road?

A. Yes sir.

Q. So your visit was really by proxy into the Elk Hills in 1901

A. Yes sir.

Q. In other words, your visit was made by the roadside down in the valley?

A. Yes sir.

Q. And you obtained no specific detailed geological knowledge of the formation of the Elk Hills in the time that you made that trip around through the valley?

A. No sir.

Q. And you never have made any detailed specific examination of those lands to ascertain their geological formation or their possibilities, have you?

A. Well, I have looked at the formation, but not in those trips.

Q. Those are the only trips that you say you made. What other trips did you make?

A. I never did make any other trip.

Q. Then your knowledge is obtained by those three trips—your personal knowledge?

A. What of?

Q. Of those hills.

A. I didn't have any knowledge of them. I don't think there [1548] was anything there, but I didn't bother about them.

Q. I don't care about your volunteering any more. Respond to my question.

Mr. Lewers—Your answer is responsive. If you treat the witness respectfully, he will treat you respectfully.

Mr. Mills—He is treating me very respectfully. I think very kindly of Mr. McClimans, notwithstanding your vociferous objections. You never made any reconnaissance of those hills?

A. No sir.

Q. And you don't feel yourself competent as a geologist to pass an opinion as a geologist upon the formation of those hills, from what you know of them?

A. Not from the surface formations, no sir.

Q. Your personal information obtained at first hand, both of the surface indications and of the structural formation of those hills, was obtained at a time when you were not making any special study whatever of the hills?

A. No sir.

Q. On two trips that you took in an automobile going up on Sections 26 and 30, where the Associated wells are in 11?

A. No; when I went on the hill, I went there for the purpose of seeing oil in the wells that were on the hill.

Q. But you did not make any study of the geological conditions in the hills?

A. No sir.

Q. In other words, you did not trace out the anticline?

A. No sir.

Q. You did not examine the hill for the purpose of examining and determining whether there were any sand-croppings—

Mr. Lewers: Objected to as not cross-examination. I wasn't asking about geological conditions or anything else in that respect, and counsel is merely consuming unnecessary time in his [1549] cross-examination.

Q. By Mr. Mills—gas blow-outs or other physical evidences of the presence of petroleum, did you, Mr. McClimans?

A. No sir.

Q. You just made a random visit in there to those wells?

A. Yes sir.

Q. Such as you would make to any wells?

A. Yes sir.

Q. Now, basing your answer on what you know of the Elk Hills from your personal observation on those two trips and your long-distance observations made from the road in the valley, you are not able now to pass any opinion whatever upon either the geological formation of the hills or their possibilities for oil, are you?

A. As far as that is concerned, I don't think there is any possible chance of getting any oil in the Elk Hills, to my knowledge.

Q. Do you base that on the two trips that you made?

A. The last two trips. The first trip, I knew nothing about it. I wasn't looking for oil at that time and, in fact, I don't think that anybody figured on there being any oil in the Elk Hills at that time.

Q. But on your last two trips, you base your statement?

A. Yes sir.

Q. And at that time you made no study whatever of the conditions, you say, of the geological formation, or had any knowledge whatever, obtained by you on those trips, of the sand croppings, of the anticlinal structure, and nothing whatever but a visit to these holes, and you are willing now to go on record under oath on a statement of that kind with that limited information? Is that correct?

A. I don't exactly know what you mean. I never took any [1550] geological information, anyway. I never took that up. I never went on any-

thing like that. I always went from what I found coming out of the well in the formation in the ground that we take out in drilling operations, and I didn't see anything at that time in the wells that I visited that looked anything like oil.

Q. Are you connected with the Associated Oil Company?

A. No sir.

Q. Or the Southern Pacific?

A. No sir.

Q. Or the Southern Pacific Railroad Company?

A. No sir.

Q. Or remotely or directly with any of the defendants in this case?

A. No sir.

Q. Did the Associated Oil Company at that time you visited the well throw open their log to you?

A. No sir.

Q. Did they furnish you extra facilities for examining their wells?

A. No sir.

Q. You were just a visitor as any casual person or observer would be, coming in an automobile?

A. Yes sir.

Q. Did you have any extraordinary facilities by which you could form a correct judgment, not having seen the log of the well, and having no facilities afforded you other than the right to go on their property, from which you could form an opinion?

A. All the way I could form an opinion would

be from the location of the conditions around the well, and if they were working on the well, to see what was coming out of the well.

Q. They were not working on the well at that time, were they?

A. Yes sir. [1551]

Q. Which well were they working on?

A. I couldn't tell you exactly; it was on 26.

Q. Were they working on the well in Section 30 in 30-24?

A. Yes, but they were not down when I was there. They were not deep enough to get oil if there was any.

Q. So, if they discovered oil, it was after your last visit there?

A. Yes sir.

Q. Do you know as a matter of fact that since your last visit the Associated Oil Company have discovered a well which will produce on a gauge 406 barrels of oil a day?

A. For how long?

Q. Do you know that to be a fact?

Mr. Lewers: I object to this question because it is constantly asked, and counsel knows it is not a fair question. It assumes that it is a regular steady production, and there is no testimony to that effect.

A. I do not.

Q. By Mr. Mills: Assuming it to be a fact, Mr. McClimans, that they have discovered a well which runs 406 barrels of petroleum a day on the pump,

and which will probably increase in its amount when it is kept on the pump, but which has been temporarily stopped by the company operating the well, would you regard that well as a good indication of oil territory in the Elk Hills?

Mr. Lewers: To which I object on the ground that it is a hypothetical question not based on the evidence in the record and contrary to the evidence in the record, and indefinite, because it does not furnish any data as to the length of the production.

A. I do not believe it to be a fact.

Q. By Mr. Mills: I say we will assume it to be a fact. You needn't volunteer something that is not the question. I say we will assume it to be a fact.  
[1552]

Mr. Lewers: You are volunteering something that is not in the evidence. He has a right, in the light of his knowledge not to take your assumption.

Mr. Mills: Well, the gentleman is willing to take an assumption.

A. Any oil property that will produce 400 barrels a day is profitable.

Q. That is, in the McKittrick-Midway field?

A. Yes sir.

Q. And assuming it to be a fact, which you say you don't know, and basing it only on the assumption that the well will produce 406 barrels a day, and possibly increase its output, would you regard that as an indication of a splendid oil territory?

A. Not a splendid oil territory for that depth.

Q. I didn't say anything about depth. Did I say anything about depth?

Mr. Lewers: I object to that question because counsel must not assume that the witness is entirely ignorant with the situation that he has observed. If you are going to make a statement of a hypothetical question, put in all your facts. It might be one foot deep, for all you know, or for all you say.

Q. By Mr. Mills: Are you willing to concede as a practical oil producer that a well in the McKittrick-Midway field, regardless of its locality, so long as it is in that field, which will produce continuously for an indefinite period of time, upwards, of a year, we will say, 406 barrels of oil a day, and probably increase that amount gradually, is a good oil proposition, and that the land on which that land is placed and the contiguous land is good oil territory? And, say, the gravity is 28.

A. Yes; that would be good territory.

Q. Would you regard that as good as any territory where they have not developed what you call a gusher or something extra-[1553] -ordinary in the McKittrick-Midway field?

A. I couldn't catch you.

Q. Would you regard it as good oil territory as the average successful territory in the Midway-McKittrick field?

A. Yes sir.

Q. Now, assume it to be a fact that on Section 24 and on Section 26, in 30-23, they have discovered oil,

and that on Section 30 which corners on 26 in 30-24, they have produced a well which has been designated by some authorities as the best well in the McKittrick-Midway field, running at least 406 barrels a day. Would you say that that was sufficient, if it would run for a year at that rate, to prove that to be excellent oil territory?

A. I don't know anything about it. I never heard of it.

Q. I am assuming the fact. Would you regard it to be oil territory?

A. I said that before. That I regarded a 400-barrel well, if it would last or pump or produce 400 barrels a day for a year,—it would be a paying proposition. It would be oil territory. Good oil territory.

Q. You say you are in touch with conditions in the oil business in the West Side field from 1901 to 1904?

A. Yes sir; with the exception of one year.

Q. What year do you except from that?

A. That was from December, 1901, till—It was a year and a half. From December, 1901, till May, 1903.

Q. December 1st, 1904, you were over there—or substantially at that date,—on the West Side field?

A. Yes sir.

Q. About how many wells, as near as you can recollect, were in Township 30 South, 21 West, at that date—wells which had struck oil?

A. I couldn't tell you how many wells there were.

[1554]

Q. How many wells which had struck oil were there, on December 1st, 1904, in Township 30 South, Range 22 East?

A. In the McKittrick field?

Q. Yes.

A. I never counted the wells. I don't know how many there were. There were several of them.

Q. On the same date, in Township 32 South, 23 East, how many wells would you say as one having been in touch with the conditions there on December 1st, 1904, which had struck oil and were producing?

A. I couldn't tell you anything about the sections. I didn't keep no track of them.

Q. I am speaking of townships.

A. That takes in the McKittrick field?

Q. 32-23 takes in the McKittrick field?

A. I don't know where it takes it. I don't know anything about it.

Q. You are not familiar with the township numbers and names?

A. Not unless I get a map and look them over.

Q. Yet you have been in that field some time?

A. Yes sir.

Q. And have not acquainted yourself with the townships, ranges, and numbers?

A. Only in certain places—certain sections; those that I am interested in.

Q. How many wells were there on December 1st, 1904, in Township 30 South, 24 East?

A. I don't know.

Q. How many wells were there on December 1st, 1904, in Township 12 North, 24 West, San Bernardino Meridian?

A. I don't know.

Q. How many wells, do you know, in successful operation on [1555] December 1st, 1904, in Township 11 North, Range 24 West, San Bernardino Meridian?

A. I don't know.

Q. In Township 11 North, Range 23 West, San Bernardino Meridian?

A. I don't know.

Q. How many wells altogether were there which had struck oil anywhere in the McKittrick-Midway-Sunset field on December 1st, 1904, or prior to that time?

A. I couldn't tell you how many.

Q. Don't you know as a matter of fact there were upwards of 300 successful wells in 1904, in December, from McKittrick to Sunset?

A. No sir.

Q. Do you swear that they were not?

A. No.

Q. You simply don't know it to be a fact?

A. I do not.

Q. As a matter of fact, Mr. McClimans, your recollection at this time is not very definite, is it, as to

just what the conditions were there year by year in those fields? In other words, you cannot segregate what difference there was in such a year as distinguished from the year following, can you, during the course of the twelve or fifteen years?

A. From 1904 up to 1908 there was very little work done.

Q. I mean taking it from 1900 till 1904.

A. There was very little work done from 1902 up till 1908 or '09.

Q. (The question is read by the reporter.) Can you give me a more specific response to that question?

Mr. Lewers: I submit that the answer is responsive.

Q. By Mr. Mills: Can you now, Mr. McClimans, after the pass- [1556] age of the number of years, recall back distinctly enough to remember definitely what progress was made between the year 1904 and 1905 in that entire field?

A. Nothing at all, I don't think.

Q. Can you remember sufficiently to say that there were no wells put in during that time?

A. Well, there probably was between Sunset and McKittrick one or two or three.

Q. Taking the entire field from McKittrick to Sunset? My purpose is not to mix you up, but to test your recollection to see whether you can now after a passage of these years distinctly remember

year by year the number of wells that were put in each year in that entire field.

A. No; I could not.

Q. As distinguished from any other year?

A. No.

Q. It would be hopeless for you to attempt to do that?

A. Yes.

Q. Do you know of anybody else in the oil business that could do that?

A. I do not.

Q. The best record of the development there is the public records that are left of the wells that are brought in?

A. Yes.

Mr. Lewers: And where is that?

Mr. Mills: That is in certain maps that were produced year by year showing the state of development.

Mr. Lewers: Public?

Q. By Mr. Mills: Yes, public. Sufficiently so that the oil men kept in touch with those matters. That is true, isn't it, Mr. McClimans?

A. I don't know anything about that. [1557]

Q. You don't know as a matter of fact definitely just the number of wells there were in any one year on the front of that range from McKittrick to Sunset?

A. I do not.

JOHN LANG, a witness called and sworn on behalf of the defendants, testified as follows:

### DIRECT EXAMINATION

I live at McKittrick, Kern County, California, and at the present time deal in oil lands. I have been connected with the actual production of oil, however, since 1900. Part of my experience was in the Kern River field and part in the McKittrick and Santa Maria fields. I ceased my connection with active field work in the oil business in February of this year. At that time I was superintendent of the Hill Crest Oil Company.

I went into the Elk Hills for the purpose of drilling a well for the Hill Crest Oil Company on Sec. 28, T. 30-23, in February, 1910, and we started the actual drilling on October 24th of that year. We drilled to a depth of 1670 feet. We found some gas at 720 feet but we did not find any oil in this well. We quit drilling on this well on April 4, 1911, and nothing has been done since.

I was also connected with the drilling of the well by the Scottish Oil Company on Sec. 20 of the same township in the Elk Hills. This well was started in November, 1910. We drilled to a depth of 4005 feet. At a depth of 1300 feet we got a blow-out of gas and at 2620 feet struck brackish water that flowed over the top of the well. We got no oil in this well but at a depth of 3500 feet there was apparently a color of oil on the water, although I am not positive of this depth. The well was then abandoned, the casing was

cut off, and pulled out. Some of it was sold and some of it is still on the ground.

The Hill Crest well I have been speaking of on Sec. 28 of T. [1558] 30-23 cost about \$38,000 or \$40,000, while the Scottish Oil Company's well on Sec. 20 of the same township cost about \$60,000.

The Redlands Oil Company about the same time drilled a well on Sec. 30, 30-23, 2850 feet deep. I had charge of the drilling of this well for two weeks of the time when they first put in the rotary drill. They found some gas at 520 feet in this well and at 1050 feet they got a color of oil. We thought at that time it might be a 25 barrel well but after it was bailed out it did not show up any oil at all. What we supposed was a color of oil must have been asphaltum and dry sand. We could not account for it in any other way. The well was tested to their satisfaction and showed that there was no oil there at that time. This well cost somewhere about \$45,000 or \$50,000.

I know of a well that was drilled by the Midway Pacific Oil Company on Sec. 32, 30-23 about that time to a depth of 2425 feet. I was acquainted with the superintendent of this well and we exchanged confidences and I visited the well sometimes. They had at one time what they thought was a small showing of oil but they afterwards concluded that it came from a new wire line they were using for drilling. I don't know whether it came from the formation of this line. We spent about \$45,000 on this well.

The Redlands well on Sec. 30 of this township has

been abandoned and the casing has been pulled. The Midway Pacific Oil well on Sec. 32 of the same township is standing just as they left it, except that they have moved some of the houses away.

I do not think that the Hill Crest well was started by my company as a result of any expert opinion, although my associates might have obtained such opinions without my knowledge. We did read the Arnold and Johnson Bulletin No. 406 and it made us think more of the Elk Hills than if we had not read it, but we had located before I saw the bulletin.

I was not connected with any other development in the Elk Hills [1559] but I saw the Associated Oil Company operating on Section 22, 24 and 26 in T. 30-23 and on Section 30, 30-24. I was there from time to time and saw them drilling. I saw oil produced in Secs. 26 and 30, I think, in the latter part of 1911. I have not been in the Elk Hills but once or twice since I left there in February, 1912.

#### CROSS-EXAMINATION OF JOHN LANG

The fact that the Government of the United States has withdrawn from entry the land in the Elk Hills has to some extent had something to do with our not doing anything further with out locations as it makes it doubtful whether or not we can get title to the land. The withdrawal, I think, has also had a tendency to discourage capital and has discouraged locators because of their inability to get capital interested. To my knowledge oil has been

discovered in the Elk Hills in Section 26, Township 30-23, and in Section 30, Township 30-24. Gas has been discovered in the Elk Hills in sections 32, 30, 20, 28 and 26, all in 30-23, and 30 in 30-24. Gas was discovered in the Redlands well on section 30, 30-23. At 1300 feet quite a bit of gas was discovered in this well and their rig burned down. They claimed that the gas was the cause of the rig burning down as there was a sufficient quantity to ignite and set fire to the rig and it burned down. The only wells in the Elk Hills that were drilled entirely with Standard tools were the Hill Crest and the Midway Pacific wells. The Scottish Oil Field Limited was drilled 1800 feet by standard tools. This was in section 20, township 30 south, Range 23 East. From 1800 feet down to 4055 feet they drilled with a rotary. The Redlands well from 1600 feet on drilled with a rotary. The Associated drilled some of their wells in part with the standard and finished with rotaries. The Associated well on section 26, Township 30 South, Range 23 East was started and completed with a [1560] rotary. In their well on Section 26, Township 30 South, Range 23 East, the Associated perforated their casings at about thirty one or thirty two hundred feet and they continued on down to 4035 feet and put in perforated pipe there.

Q. Have you any opinion as to whether that well would have made a better showing if it had been perforated at a higher point in the well?

A. From what I was told and from indications

that I saw when I passed around there, I thought there might have been oil at 2600.

Q. And from your understanding they did not perforate the casing at 2600?

A. No; I didn't hear of it, if they did.

Q. Now, this well which you referred to on Section 24 of 30-23, was that an Associated Oil Company's well?

A. Yes sir.

Q. What do you understand that well made?

Mr. Lewers: I object to that. You are calling for hearsay testimony that you are declaiming so loudly against.

Mr. Mills: This is your witness and I am asking some questions to find out what he knows. He gave hearsay testimony on direct testimony that I didn't object to.

Q. Did you hear of that well making 500 barrels a day?

A. I heard it did; yes.

Q. On Section 24?

A. Yes sir; that is, it started in with that.

Q. Now, that well on Section 30 of 30-24, how many barrels of oil a day did that make?

A. I couldn't tell you. I had no way of telling how much it made.

Q. Did you ever hear? You were around that country. Did you ever hear what that well made?

[1561]

Mr. Lewers: Objected to. I object to this hearsay testimony as not cross-examination.

A. I believe I have heard what it makes.

Q. By Mr. Mills: How much?

A. I have heard various stories about it. Some of them told me it made a hundred or more and others a good deal more than that. I never got nothing definite about it.

Q. By "a good deal more" how much do you mean?

A. Well, two or three hundred barrels a day.

Q. Do you know whether the Associated Oil Company ever shipped any oil through a by-pass from that well into the main pipe-line?

A. I do not.

Q. You don't know anything about that?

A. No sir.

Q. How many feet of oil-sand, to your knowledge, did the well on Section 24 of 30-23 pass through?

A. I don't know a thing about it.

Q. Did you ever hear how many feet of oil-sand?

A. No.

Q. Did you ever hear how many feet of oil-sand they passed through on Section 30 of 30-24?

A. About eleven feet, they told me.

Q: Is that the well in which you stated you had heard they had gotten several hundred barrels of oil a day?

A. Yes; I heard some different stories.

Q. Do you mean eleven feet?

A. Yes; eleven feet of sand.

Q. At what point?

A. At about 2700.

Q. From 2700 to what point?

A. It was about 2700. It might have been a little below or a little above, where they got the sand.  
[1562]

Q. Did they perforate the casing at 2700 feet?

A. They perforated down there about where the oil came from.

Q. About 2700 feet, do you think?

A. Yes.

Q. And you heard that they got several hundred barrels a day?

A. Some of them claimed that it wasn't doing over a hundred, and others claimed that it was doing something like two or three hundred barrels. I didn't get anything definite on what was producing.

Q. Do you know a man named James McCay?

A. Only by hearsay.

Q. Do you know from what you know of him that he is employed by the Associated Oil Company?

A. No sir; I do not. I don't know whom he is employed by. To the best of my recollection he was a director. I believe I did hear him say something about working there, coming to think about it.

Q. Do you know anything about the Newman & Morris well?

A. Yes sir.

Q. Where is that located?

A. Section 26, 30-22.

Q. How far is that from the Elk Hills?

A. About a mile or a little over.

Q. Was that well to your knowledge tested out satisfactorily?

A. Well, no. I don't think it would be fairly tested unless you went down as much as 3500 feet. I think from what I have heard it was about 2900 feet.

Q. Have the Hill Crest people an opinion, so far as you know, at the present time, that they can get oil if they continue their operations there?

A. I don't know just exactly how you mean.

Q. Are they embarrassed from any other consideration? That [1563] is, were they embarrassed by the lack of capital?

A. Well, they are probably not getting the capital put up to go ahead with the work.

Q. They have strong hopes of making an oil property of that?

A. Well, they have some hopes. I couldn't say that they have strong hopes.

Q. And they have not given up the property at all? They still keep a watchman there?

A. Yes; they still keep a watchman there.

Q. Now, from your knowledge of oil drilling, you may state whether or not it is possible—I don't say probable—but is it possible for any company drilling in the Elk Hills to conceal the actual production

of their wells so that it would be difficult to ascertain just what the well is producing?

A. If they had a motive to conceal it, they might.

Q. How could that production be concealed?

A. By not pumping a well, and various other ways, I suppose.

Q. Suppose, for example, the oil runs in the well at, say 2700 feet, and they put the pump at a few feet below the surface at the point where the oil rises in the well. Would that have a tendency to conceal the actual production of the well?

A. Certainly; it would reduce the production. If it filled in it would fill in slower than if you exhausted the head of the fluid.

Q. The higher up toward the surface of the oil in the well you place the pump the lower the production would probably be?

A. Yes; of course there would be a limit in that. But if you place it a little ways below the top of the oil, naturally you wouldn't get as much production because you would exhaust it through your pump.

Q. And the well would produce much more slowly than if you sunk the pump lower in the fluid?  
[1564]

A. Yes.

Q. Suppose you put the pump at a point above the level of the oil. You would get no oil at all, even though the well was a producer?

A. Yes sir.

Mr. Lewers: I object to this as purely frivolous

speculation, and not cross-examination. If you have got anything of that kind, go after it by those that know this particular well. It is not fair to ask this witness about what he doesn't know about.

Mr. Mills: What well are you referring to?

Mr. Lewers: I suppose you have been all along referring to those wells of the Associated.

Mr. Mills: Don't let the shoe pinch you. I hadn't said "Associated well" to the witness. I don't know what you have on the subject.

Mr. Lewers: I have a lot more knowledge than you have, and I know there was nothing of that kind done there.

Q. By Mr. Mills: If one had a motive to conceal the actual production of a well and would proceed about it in the manner which I have described, would it be possible for an expert visiting that well to discover that fact without himself sinking a pump down to a point where the oil rises in the well?

A. No; it would not be possible to discover the depth of the tubing in the well, unless they saw it pulled.

Q. It could be effectually concealed, then, could it not?

A. Yes sir.

Q. In the Hill Crest well which you say is in Section 28, 30-23, that went to 1670 feet?

A. Yes sir.

Q. Has that well to your knowledge ever been thoroughly tested?

A. Only down as far as it went. [1565]

Q. That is, to the depth of 1670 feet?

A. Yes sir.

Q. Do you think they went deep enough to thoroughly test that well?

A. To test the well or the territory?

Q. The territory.

A. No, they did not, to my satisfaction.

Q. Now, take the Redlands well on Section 30, 30-23. Has that well, which you say went down to 2850 feet, been thoroughly tested?

A. No; there is a possibility of getting oil below there and be paying, anywhere from 3500 to 4000 feet.

Q. So, the fact that they went 2850 feet does not prove anything definitely about that being oil territory?

A. No; I wouldn't think so.

Q. Has the Midway Pacific, which I think you said was on Section 32, 30-23, ever been thoroughly tested?

A. No; not any more than the others have.

Q. That well, you said, went down 2425 feet about?

A. Yes sir.

Q. If that well was sunk deeper it would more thoroughly test that territory, would it not?

A. Yes sir.

Q. Is it your belief that if they go deeper they would have a prospect of striking oil?

A. They would have a chance.

Q. They quit too soon in those wells to thoroughly test it?

A. Yes sir.

Q. How long do you think it would take to test a well after they struck oil? How many days or weeks should they have a well on the gauge?

A. Wells vary so that it would be pretty hard to answer that offhand. A well ought to be pumped at least a month, I think; a [1566] month or six weeks.

Q. And if they pumped a month it would be a pretty fair test?

A. Yes; to find out if the well is producing oil or if it is in a right proper condition.

Q. Now, by the use of a rotary rig, Mr. Lang, I understand from the testimony that has been introduced here that they pump in a certain amount of mud or cement into—

A. Pumped in mud.

Q. And force it up around the casing?

A. Force it up around the outside of the drill-pipe.

Q. It has a tendency to hold the walls of earth away from the drill-pipe?

A. It has a tendency to keep it from caving in.

Q. And it also has a tendency, has it not, to mask the formation so as to conceal the oil-sand as you pass through it?

A. Well, they claim that they have, but I don't know positive that it has.

Q. That is to say, a rotary drill passing down through an oil-sand, by the pressure of this mud up against the walls may possibly conceal the fact that the rig has passed through an oil-sand?

A. There is a slight possibility; yes. But it would show a color on the surface—the water would show a color of the oil.

Q. In all cases does it show a color?

A. Yes, it couldn't hardly avoid it.

Q. Did it not, in all these wells in which the rotary rigs were used, show a color of oil, so far as you know?

A. So far as I know, except on the Redlands. I never heard them say that they got a color.

Q. The fact is, is it not, Mr. Lang, that the use of a rotary rig in drilling has more of a tendency to conceal the true formation through which you pass than the use of standard tools? [1567]

A. It certainly has.

Q. It is possible, is it not, that by the use of rotary rigs which were used, as you say, on a great many wells in the Elk Hills, for the operators to pass through oil-sands and not know it?

A. It is a possibility, yes; if they were not very thick. And what makes the possibility greater is drilling in the night and no one there but the drillers. Lots of times they don't notice it. They know when they go through something hard or soft. They can tell whether it is sand by the way the drill drops.

Q. And they do drill day and night?

A. Yes sir.

Q. From what you know of the Elk Hills, do you regard it as a prospective and possible oil territory?

A. Part of it; yes. Possible.

Q. And you know of certain discoveries both of oil and gas in different places in the Elk Hills?

A. Yes sir.

Q. Have those hills and value whatever for agricultural purposes, to your knowledge?

A. I wouldn't want to cultivate them.

Q. Why not?

A. I wouldn't consider them paying unless I had water on them.

Q. Why wouldn't they be paying?

A. They are pretty rough to cultivate. Part of them might be cultivated, as far as level is concerned, but with the rainfall it would not pay, unless a man could get water up there. I don't see any way to pay to cultivate.

Q. And considering the Elk Hills as a possible asset, have they, in your opinion, basing your answer on your experience in those hills and from your general observation and knowledge of agricultural conditions in that vicinity,—have those hills any [1568] value for any possibility of minerals they

A. Not outside of grazing.

Q. What value have they for grazing?

A. I couldn't state definitely. But in good years they have quite a bit of grass.

Q. For what length of time?

R. That is a hard question to answer direct, because there might be quite a bit of stock in there and eat it off pretty fast. Certainly, during the rainy season.

Q. How long does the rainy season last?

A. That differs.

Q. Isn't it a fact, Mr. Lang, that the grazing in the best years does not last over two or three months in the Elk Hills?

A. Do you mean that the grass was green or good?

Q. Yes.

A. It was more than that. About four months, I should judge.

Q. And the rest of the season it was dry?

A. Yes sir.

Q. And absolutely valueless except for the minerals that the hills contain?

A. Yes sir.

Q. The only real value that those hills have as a possible investment is for petroleum or other minerals that they contain?

A. Yes sir, or grazing.

Q. You would not give much for them as a grazing proposition?

A. Personally I would not.

REDIRECT EXAMINATION  
OF JOHN LANG

By Mr. Lewers:

Q. Did I understand you to say that part of the Elk Hills you would regard as an oil possibility? [1569]

A. Yes.

Q. Would you put it any stronger than that?

A. No; I don't know that I could. I am only basing it on hearsay.

Q. And you put it merely as a possibility as to part of the hills?

A. Yes sir.

Q. What part of the hills?

A. The eastern end.

Q. Now, was it in the Scottish well, in Section 20, that they struck water?

A. Yes sir.

Q. And how much water did they strike?

A. Well, it flowed a little bit over the casing.

Q. Now, what did that indicate to you?

A. That water?

Q. Yes.

A. Well, I didn't have much hopes after we struck that water that we could get oil in there.

Q. And would you regard the territory where the Scottish is as oil territory?

A. No; not after that well was put down as deep as it was. There was a possibility, but I don't think it was—

I did not regard that territory where the Scottish well was as oil territory after the well went so deep but there was a possibility but I think it was remote. Now, as to the well on section 28 that went down 1670 feet, there was nothing discovered that indicated there was actually oil below that but I would like to have seen that well go deeper on account of the formation. Comparing that formation with other wells I would say the same thing of the Redlands well on section 30. I don't think anyone can

tell that there is oil below the surface except by drilling a hole. [1570]

I have studied the Elk Hills with a view to discovering where the anticlinal fold is. I don't know much about an anticline as I am not posted on geology or geological work as I stated, but I would consider the anti-cline in the Elk Hills as running nearly East and West, a little tendency to the Southeast. The anti-cline in my opinion is not very definite, that is so far as I know what an anticline means. I think it runs from the Northwest to the Southeast in a general direction. There are croppings of it which show from the Railroad crossing where the railroad goes down through the gap in section 14, a little East of McKittrick. I noticed the anticline fold there. I have been through the Northwest quarter of section 32, Township 30 South, Range 24 East but I never saw that blow-out or oil cropping there. In fact, I never looked it up, never looked for it when I was going through there. The Elk Hills, from the practical standpoint, show an uplift from the valley, a gentle uplift similar to the Buena Vista Hills and are also a little higher. The Buena Vista Hills have a very definite anti-cline but in other regards the hills are similar. I have observed the smashing up and breaking up of the hills near McKittrick where the asphaltum runs out and it shows considerable surface disturbance there and structural folds underneath. Now, comparing the Elk Hills with the McKittrick hills I would say that the Elk Hills are undisturbed by any physical evidence of the structural

fold. That they are undisturbed compared with the McKittrick anti-cline.

D. W. MADDUX, A WITNESS CALLED AND SWORN ON BEHALF of the defendants, testified as follows:

#### DIRECT EXAMINATION

I am a farmer in township 30-21 about five miles from McKittrick. I have lived there fourteen years and have been seven-[1571]teen years in the vicinity of McKittrick.

I was subpoenaed as a witness in this case last Spring and came to Los Angeles in response to that subpoena and remained here five or six days but was not called as a witness.

I am acquainted with a man by the name of E. C. Ryan and saw him in the early part of January, 1904, at McKittrick, and at my own place. At that time I was employed by him to pilot him over some land he was inspecting in the Elk Hills and also in Maricopa. I was employed by him in all at that time for seven days and as I remember it he paid me twenty-one dollars, at the rate of \$3.00 the day.

Of these seven days, five days I think were spent by us in the Elk Hills and the other two days on the road to and from the lands out east of Maricopa.

While I was in the Elk Hills with Mr. Ryan during these five days he was evidently inspecting the lands and we examined a number of odd sections. I remember that he was looking for the odd sections. We first found the corners so that we knew the locations

of the sections and then we went out across the section more or less each one of us. I did not know what he was doing as he never told me what his business was and I asked him no questions. The country was very badly broken up and we could not drive very much.

While this examination was going on we spent our nights in McKittrick, usually starting out in the morning about seven o'clock and reaching the hills about eight o'clock. We returned from the Hills somewhere between four and five o'clock in the afternoon. The last day we were in the Elk Hills we went over on the northeast side of the old canal where I found the corner of section one of township 30-23 as near as I can remember. All of the land we examined was in this township as I remember.

Most of the time we were in the Hills we went along the ridge [1572] and went down from this ridge to find the sections we were looking for and then would drive back up to the summit and would go east or southeast to find other corners.

We spent the entire days in the Hills as we took our lunch with us. When this work was completed I was paid twenty-one dollars in cash, as I remember it, and signed some sort of a paper which Mr. Ryan made out for me.

While I was in the Elk Hills I observed no mining work going on there of any kind. I saw location notices and all of the corners were covered with these notices. These notices dated back to 1900, 1901 and 1902.

## CROSS-EXAMINATION

When Mr. Ryan came there in 1904 he was driven out to my place shortly after the first of January and I think that we drove from my ranch over to McKittrick on that day, but do not remember whether we made any part of the examination on that day or not. I do not remember the sections we went on but think that we went first along the township line on the west side.

It is not my recollection that we spent only two days in the Elk Hills. We were in there four or five days before we went to the other land in Maricopa.

On the last day when we went over by the canal we went into the foothills of the Elk Hills about two or three miles to the south from where we got our bearings on the canal and had to walk up into the foothills. I think there was something that he looked at on the flat.

That is the way it is in my mind, that I got \$21.00; that he allowed me \$3.00 a day; I wouldn't go for anything less. I was not paid for the team; the team belonged to the livery stable. The only way that I recollect that it was seven days is from the amount of money that I received. There was more than five days, but I am not absolutely sure about the seven days; there were two [1573] days of all the time that we spent that we went down near Maricopa—one day going down and one coming back. If it should appear that we only spent five days altogether, then I only spent two days going up into the Elk Hills, but

I am pretty sure that we were there three or four days.

Mr. Ryan did not tell me that he was looking for oil derricks and the only information that he gave me was that his business was to inspect the odd sections or railroad sections. Mr. Ryan frequently got out of the buggy while we were in the Hills and we walked to some of the corners that we could not drive to.

I do not know that Mr. Ryan looked for oil sands or seepages while we were in the Hills. I was looking for them myself because sometimes I located oil lands.

#### REDIRECT EXAMINATION

Mr. Ryan did not mention derricks to me and made no remark that I can remember about there being no improvements on the land or that he was looking for derricks or anything else.

H. H. McCLINTOCK, a witness called and sworn on behalf of the defendants, testified as follows:

#### DIRECT EXAMINATION

I live at Bakersfield and am a superintendent of oil properties. I have been connected with the oil business since 1904 and am now connected with the Northern Exploration Company and the Southern California Gas Company. From 1904 to 1910 I was employed by the Standard Oil Company as superintendent of their gathering system which includes all survey work, building up new fields, laying and gathering lines and purchasing oil from the various producing companies. From 1906 to 1910 I was in the

Kern County district, mostly in the Midway and Mc-Kittrick fields or what is known as the West Side.

I am familiar with the Elk Hills as I surveyed a part of that country in 1904 and from that time until 1910. Most of my work was in townships 31-24 and 30-24, although I have done some [1574] work in 30-23. In 1904 I ran a preliminary survey in the first two townships mentioned for the purpose of putting in a pipe-line into the Midway District which we eventually did in 1907.

I did not make any special examination of the Elk Hills in 1904 but drove through there occasionally on my way to Buttonwillow. At that time there was nothing at all going on in the Elk Hills. There were probably locations in there but so far as I observed they were abandoned. There was no drilling going on there. The first drilling to my knowledge started in the spring of 1908 on either Section 2 or Section 11 of township 31-24.

From 1904 up to 1909 the Elk Hills were not considered by oil men to be oil land. I was in touch with all the oil men in the district at that time and never heard the Elk Hills discussed as oil land prior to 1909.

In 1904 the oil was supposed to begin down near Pioneer in the vicinity of the old Jewett & Blodget locations. There was some oil in 30-22 in the old Mc-Kittrick field and there had been one or two indications on what is known as the Spellacy anticlines in section 30 of township 32-24.

The first actual drilling operations in the Elk Hills

in township 30-23 commenced in 1909. People went in there at that time because it had been discovered that the oil extended farther out in the Midway than had been supposed. A number of big wells were brought in there and this created a demand for oil lands throughout the entire district and everybody got excited so that if you had land located almost anywhere you could sell it or do something with it. Owing to the fact that the land in this vicinity was tied up, people rushed out into the Elk Hills and started to build derricks and to drill.

I was last in the Elk Hills yesterday when I drove through sections 11 and 13 of township 31-23 and on to sections 6, 9 and 12 of township 31-24. There was no work going on there, [1575] but occasionally we would find some junk man in there hauling out material.

About six weeks ago I was in township 30-23 in the Elk Hills with Mr. Latham, geologist for the Kern County Water Commission. At that time everything in there was absolutely dead and shut down as far as we could see. I passed several of the leases and things were at a standstill. In most places the watchmen even were withdrawn and work had been abandoned.

On this visit with Mr. Latham we went to the Spreckels property on section 16 of township 30-22. That was abandoned. We then went to the property of the Scottish Oil Company in township 30-23 and to the properties of four or five other companies.

Everything was shut down and in some cases everything had been moved away that could be moved.

In my opinion the Elk Hills cannot be considered as oil land at the present time. I say this because I have personal knowledge of wells as deep as 4600 feet that are apparently barren and it does not look as if there was much chance below that depth because we do not know how to go much deeper. A well 4,000 feet deep in that territory would cost about \$60,000 without counting the cost of water and fuel lines.

A pioneer well there would cost not less than \$15 per foot.

*Cross-Examination.*

I do not know of any discovery of oil or gas in the Elk Hills in paying quantities. During one of my visits to an oil company in township 30-23 while I was employed by the California Natural Gas Company laying gas lines throughout that district, I noticed more or less gas coming out of a well that was being drilled but they didn't have enough gas to do their own work and we sold gas to them.

The development in the Elk Hills started prior to the [1576] withdrawal order of September 27, 1909, and this order did not retard the activity of any of the companies that were operating at that time in the Elk Hills. There were many thousands of dollars put into that country after the order was made and they kept on going until the drills couldn't go any further.

The cessation of work in the Elk Hills is not due to financial difficulties because some of the companies

that put their money in that district are also putting money in other places and have plenty for that purpose. But they are putting no more money in the Elk Hills.

A. T. LIGHTNER, seventeenth witness for defendants, Los Angeles.

*Direct Examination.*

My home is in Bakersfield where I have lived since 1875. During that time I have been county clerk, recorder, assessor and also a deputy in nearly every office in the county except that of Treasurer. At present I am engaged in taking care of Government land matters such as contests in the United States Land Office and preparing papers in any class of Government entries. I am also engaged in doing a great variety of other things, for instance, I am inheritance Tax Appraiser for Kern County under appointment by the State Comptroller and am frequently appointed by the court as a Referee.

I have heard of the Elk Hills and of locations made in there but all I know about them is from the records as I have not been there to see the notices posted. In 1903 I think it was, I was associated with a man by the name of George E. Brown in preparing notices of locations and locating lands not previously located or those on which the locations had lapsed.

I became acquainted with Brown through the fact that I had been interested in some locations north of McKittrick. Brown came to me with a suggested plan of locating up lands that appeared [1577] to be free from locations on the record and inducing

various people to employ him to go on these lands and make locations on them for oil with the expectation that he would receive some payment for his services in doing so. My duties in this connection were to look up the records and ascertain what lands were free to locate. He charged each of the people who went into these locations \$20 and went on the ground himself with such assistants as he needed and made the locations, putting up the names of the various people who had gone in on the plan. After that the location notices were put on record. We made no investigation whatever to determine whether the lands located were oil lands or not and the locations were made largely as a speculation, although we endeavored to locate them as near to producing territory as we could find open land. Brown was not an oil man, although he had some general knowledge on the subject and I do not think he knew anything about geology.

A great many people who went in on this arrangement had authorized Brown to make the locations for them. He had a great many of the county officials on his list. There were a few oil men such as Tim Spelacy, but most of these locators were men who were engaged in other lines of business.

There was no work done by Brown or any of these people on any of these locations. I have talked with most of these people and I found that none of them had ever seen the lands and did not know anything about them.

Most of these locations that were made in 1903 were

made in townships 30-23, 31-23 and 31-24 and possibly some in township 30-24.

The discovery of oil in the Kern River Field was made in the latter part of 1898 or the early part of 1899. The excitement of this discovery caused locations to be made in all parts of the country where there were any signs of oil. These locations [1578] covered a very extensive country but by 1903 they had begun to lag somewhat. At that time interest was revived and Brown conceived the idea of making a little money for himself and so evolved the plan I have spoken of.

At the time we made these locations in the Elk Hills we did not do so because we considered that the territory was oil land. We had no opinion as to its oil value, other than we were locating any land that was unlocated thinking that it might be a speculative proposition, and thinking that we might strike some oil land. We didn't know whether it was oil land or not. We thought any land above the flat and lying west of the flat in that country, or the valley pointing towards McKittrick might be classed as having some speculative value for oil. That is all we knew about it.

*Cross-Examination.*

My part of this location scheme was to look up the records and assist Brown in finding lands that were open for location. We selected townships where there were vacant tracts.

E. S. GRAHAM

Eighteenth Witness for Defendants. Los Angeles.

December 12, 1912.

*Direct Examination.*

I live at Redlands, California, and am engaged in the real estate and brokerage business.

I am one of the directors of the Redlands Oil Company which operated in Sec. 30, 30-23 in the Elk Hills. This company was incorporated a little over two years ago, and Mr. Ralph Arnold, the geologist connected with the United States Geological Survey at one time, was one of the incorporators.

I was on the property of this company in the Elk Hills on two occasions a little over a year ago while we were drilling. We drilled to a depth of 2850 feet but did not find any oil. We [1579] spent about \$60,000 in drilling this well. Nothing is being done with it now. The work was discontinued and the property abandoned and the company dissolved, and what little was left in the treasury of the original subscriptions was returned to the stockholders. We stopped work because it could not be carried on profitably. From the reports we had from the surrounding territory of wells that went deeper than we did and gave it up, we thought it was unprofitable commercially. We did not think it was best to go ahead and develop.

The people connected with this company were financially able to go ahead if they desired, for several of them were wealthy men. The only reason we discontinued work was because of our failure to find oil. Everything connected with the well that was saleable was disposed of and after deducting what we received in this way the net cost of the well was

about \$60,000. We did not sell the claim but allowed it to lapse.

As the result of what Mr. Arnold told us, we thought we would strike oil at 1800 feet.

*Cross-Examination.*

I am not a practical oil man. There might be great quantities of oil below the point where we stopped drilling, but we did not think it would pay to go deeper. I think we were unanimous that we had gone as far as we were justified in going. The log of the well might have shown some traces of oil. I do not know about this. There was some gas shown but I don't know that there was any oil. I never heard that the Redlands well had been known as a 25-barrels-a-day well, but wish I had known that.

All I know about the surrounding territory is from the reports we received concerning the drilling carried on by others. The directors accepted the reports we got from our superintendent concerning the Scottish well, which was put down about 4,000 feet, and that was one of the influences that discouraged us from going ahead. [1580]

We were not influenced by the withdrawal order of September, 1909. That matter was discussed but we were of the opinion that we were safe in going ahead in making our development. We left the question of the effect of this withdrawal to our legal adviser and were told it was all right to go ahead. If we had not thought so we would not have put so much money in the development. This withdrawal order had nothing to do with our quitting work over there.

## JAMES A. OGDEN

Nineteenth Witness for Defendants. Los Angeles.  
December 12, 1912.

*Direct Examination.*

I live at Bakersfield, California, and am superintendent of the Kern County ranches belonging to Miller & Lux, and have been such for eighteen years, and have lived at Buttonwillow and Bakersfield during the whole of that time. I am familiar with the Elk Hills which lie directly south of Buttonwillow.

I was first in the Elk Hills about 1895 and have been traveling over them from time to time during the eighteen years I have been in that country looking after stock and feed, etc. We leased this land from the Southern Pacific Railroad Company with the exception of two years ever since they have had it, for grazing cattle and sheep. The feed in the Elk Hills depends a great deal upon the seasons but in the Spring of the year we almost always have feed and practically the year around, there was more or less feed in that country. There is a good deal of Foxtail and grass we call bronco grass and some alfileria, which furnishes feed for cattle and sheep.

I had some locations at one time in the Elk Hills. Some of the men on the ranch went out and located this land and my name was used by them in these locations. I did not make the locations myself and was not on the ground when they were made. [1581] I probably knew at the time where they were but I am not able to say now. One of the men who made these locations was a man by the name of Meaves who

was the railroad agent at Buttonwillow. We did nothing with these locations. I think I put up a few dollars to pay the expenses of recording the notices but that is all.

At the time when these locations were made, I cannot say that I considered the Elk Hills to be oil land, as I thought very little about it. I was not an oil man and the other men simply used my name and I let it go at that. None of these locators were oil men, as far as I know, but they were all greenhorns in that business.

At that time I had not heard any oil men discuss the Elk Hills as possible oil land but there were a great many people going in and locating land there. They put up no derricks and the only work done was to dig a hole here and there or fix a crossing to allow a wagon to go over a gulch. The first actual development work in the Elk Hills began about three or four years ago. Two years ago there were a number of rigs working in there but at the present time there is not one.

*Cross-Examination.*

The records show a number of locations in the Elk Hills in which my name appears, but I never put up any money in connection with those claims, except possibly for the filing of the notices of location.

At this time the lands in the Elk Hills are under lease to Ardizzi and Olcese but we exchanged land with them so that we had the use of the Elk Hills. They paid seven and one-half cents an acre per year for the grazing privilege in the Elk Hills. Under

the arrangement we have with them, we give them the use of 1,000 acres around the borders of Buena Vista Lake with the water privilege, in return for our right to use about twelve or fifteen thousand acres of land in the Elk Hills for grazing purposes. [1582]

There is grass practically the year around in the Elk Hills, but Miller & Lux control the only water in that vicinity and the lands are not valuable for grazing without water. [1583]

M. H. WHITTIER, a witness called and sworn on behalf of the defendants, testified as follows:

#### DIRECT EXAMINATION

My home is in Los Angeles and I am engaged in the oil business and have been for about twenty-three years, principally in California and the Indian Territory. I have business interests in practically all of the oil fields. I learned the old business first as a laborer and have followed it right along. I am now vice president of the Bellridge Oil Company and am a director of the Associated Oil Company and connected with other companies and have properties of my own at different places, and am actively engaged in the production of oil.

I am familiar with what are known as the West Side Oil fields, including McKittrick and Midway. I first went into that country in 1899, and since that time have kept in touch with what was going on there.

From the time I went in there up to 1905 the production in that field was along a narrow strip through

there. Our experience was limited in those days but we have broadened out a great deal and learned that oil can be found where we did not expect to find it.

Up to 1905, there may have been some people who considered the Elk Hills as oil land, but I was not particularly interested in them and never have been. The Associated Oil Company with which I am connected, acquired interests there in recent years, but I never thought of it as an oil country. I have been interested in acquiring new property for myself since 1899, and have drilled many wildcat wells since that time in various places.

I have been on the property of the Associated Oil Company in the Elk Hills while they were drilling there. I am not as active with the company as I used to be but I went out there [1584] where they worked to see how things looked. The first time I was there they had found a little oil which, I think, was the reason I went out there. If I remember rightly they were down to a depth of 4,000 feet.

From the work that we have done there and the expense we have gone to and the small amount of oil we got, I hardly think we would now consider the Elk Hills or any portion of them as oil territory. There was a time that people, during the excitement, thought that was oil territory, and the Associated went in there by the advice of very good people, but I think they are kind of sick of it. My opinion about it is that they made a mistake. I do not know how they feel about it as a company, but in my personal judgment I don't think very much of it.

## CROSS-EXAMINATION

of

M. H. WHITTIER.

I became a director in the Associated Company in 1902 or 1903. The Southern Pacific Company obtained a stock control of the Associated Oil Company in October, 1908, but did not take control of the board of directors until 1910. At that time I went off the Board of Directors. I went back on the Board of Directors in the fall of 1911 and am still a Director of the Associated Oil Company. The Associated Oil Company has a capital stock of 400,000 shares. I own over 10,000 shares of the capital stock of the Associated Oil Company. These shares have a par value of \$100, and their market value ranges from \$40 to \$45 per share.

I never did visit the Elk Hills particularly. I have been over there but I never did make an examination of them for oil. I am not a geologist and never made a geological reconnaissance of any portion of the Elk Hills at any time.

I never visited the Elk Hills until recent years, but [1585] I have known the West Side country as well as the average man for the last fourteen years. I will not say under oath that the Elk Hills are not oil lands, and I do not think there is any man under oath who can tell what are oil lands until he has drilled for it. We found oil sometimes where we did not expect to, but as to the general conditions there, I never took very favorably to that country.

That would not mean that it was not oil territory particularly.

There are other places that I would rather go to than the Elk Hills, as they are one of the expensive places to operate. What we look for is a place where we can get returns from our work.

The Associated Oil Company employs geologists but they make mistakes. For instance, they turned down the property on which the Bellridge Oil Company is now working. I do not think that the geologists have helped us out much in that field. I don't think that the Associated Oil Company have abandoned any of its property in the Elk Hills by what I understand as abandoned.

REDIRECT EXAMINATION  
of

M. H. WHITTIER.

I think that the Associated Oil Company made a mistake in going into the Elk Hills. We have bought a great deal of land in the Lost Hills and paid quite a sum for it, and I think in the Elk Hills also. We spent a large amount of money there and have not received the results that we should have from the wells we drilled. This company, as well as other large companies in the field occasionally takes a gambling chance on new territory.

I have had about 23 years of practical experience in the oil fields. I started in Ventura County, went from there to the Los Angeles field and help open it up. I went from [1586] there to Coalinga and did considerable work there. After that I was in the

Kern River field and then became acquainted with the McKittrick districts. I was one of the pioneers in the Kern River field and later in the McKittrick field and also in the present Bell ridge field. Prior to 1905 I lived in Los Angeles but was in the West Side fields very frequently and during all of this time kept in touch with the work that was going on, but I never heard the Elk Hills being discussed as oil territory by any oil man.

I am not aware of anything at this time that would attract me to the Elk Hills and I would not advise any man to invest money in the Elk Hills on the chance of finding oil in commercial quantities. On account of the work that has been done there I would not even advise him to take a gambler's chance on it. My opinion is based altogether on the work that has been done there, which I think is not very encouraging.

#### RE-CROSS EXAMINATION

of

M. H. WHITTIER.

The Associated Oil Company has discovered oil in the Elk Hills. I am not willing to condemn the Elk Hills as a commercially profitable territory on the work that has been done there. In fact, I don't know anything personally about it except I have my own views. I don't think anybody can swear that there is no oil in the ground. [1587]

EUGENE OVERTON, a witness called and sworn on behalf of the defendants, testified as follows:

DIRECT EXAMINATION.

I am an attorney, and am a member of the firm of Chase, Overton & Lyman. In 1910 I was a member of the firm of Lee, Chase, Overton & Valentine, which firm represented the Buena Vista Land & Development Company at that time. In connection with a contest that this Company had concerning some lands in the Buena Vista Hills in Kern County, Dr. J. C. Branner of Stanford University was employed to make an examination of these lands, and on October 18, 1910, we received a written report from him showing the results of his examination. I have been unable to find the original of this report but recently wrote to Dr. Branner and obtained a copy which I now produce.

Said copy was thereupon produced in evidence as Defendants' Exhibit 5, and reads as follows:

“(COPY)

Stanford University, Cal.

Oct. 18, 1910.

Lee, Chase, Overton & Valentine,

Los Angeles Trust Building,

Los Angeles, Cal.

Gentlemen:—

I have examined the lands in and about the Buena Vista Hills near the town of Taft in this state, which are indicated on the accompanying outline map, namely: 32 south, 24 east, section 2 (all but the south-east quarter), section 4, section 6, section 8, section 12, the south half of section 14, and section 20.

This examination was made for the purpose of de-

termining whether or not there are on the sections mentioned indications of valuable minerals in paying quantities. In order that nothing of importance should escape me, I personally went over each of the [1588] tracts mentioned, examining the exposures along gullies, and roadsides, and following the land lines along the routes indicated on the accompanying map. In addition to these examinations of the lands in question I kept a constant lookout for geologic evidences that might appear on the adjoining lands and that might throw light upon the geology of these particular sections.

*The fresh water origin of the formations exposed over the surface.*—The geologic formations exposed over the sections mentioned are everywhere the same with slight local variations. They are composed of sands, gravels, clays, and boulders, the gravels and boulders all being more or less waterworn. The bedding and waterwearing of the materials show that they were deposited in water, and the finding of the fragments of Unios or fresh-water clam shells at several places, especially on section 2 along the north and west sides, on section 12 at and about the northwest corner, and on section 14, near the middle of the east side, show that *these deposits were laid down in a body of fresh water.*

Under ordinary circumstances deposits of fresh water origin may contain important placer deposits of gold, tin, or diamonds, but nothing was seen that would lead me to suspect the presence of any of

these or of any other minerals, with the exception of small quantities of gypsum.

*Gypsum.*—Small patches of gypsum were seen at several places, but none of these gypsum deposits have any commercial value either immediate or remote. The nature and origin of the formations of which the gypsum is a part preclude the possibility of the deposits being large or more than small local patches of no importance. A chemical examination of two specimens of the gypsum taken by me on section 10 show the material to contain 73.86 per cent. of gypsum.

*Indications of oil.*—Epecial effort was made to [1589] find indications of the presence of petroleum on these lands. Seepages of petroleum and beds of asphaltum were looked for on all of the sections in question, but none was found.

Old oil seepages, however, are known and were seen on one of the adjoining sections (section 11).

The question arises whether a seepage of oil on section 11 could be considered geologic evidence of the existence of petroleum on section 12 or on any other section involved.

As a conservative geologist I hesitate to express an opinion on this subject without more evidence than these seepages afford. I have seen enormous asphaltum deposits where no oil could be found by deep wells put down in the most favorable localities in the vicinity.

Seepages and asphaltum deposits cannot there-

fore be regarded as unquestionable evidence of the existence of petroleum in the adjoining sections.

*Evidence from outside of the Buena Vista Hills.*—In spite of the absence of direct evidence to be found in the geologic formations on the lands in question, a study of the broad features of the geology of the southern end of the San Joaquin Valley leads me to the conclusion that these lands probably do have oil beneath them. The features referred to are the existence of an enormous thickness of oil producing shales along the west side of the San Joaquin Valley, the association with these shales of porous sedimentary deposits, and the folds beneath and along which oil and gas usually accumulate.

If oil had not been found, however, in the region south and west of the Buena Vista Hills a geologist would have been very bold indeed who would have ventured to predict the existence of petroleum in the Buena Vista Hills themselves.

Very truly yours,

(J. Signed)

J. C. Branner

Consulting Geologist." [1590]

Mr. Mills—Let me ask Counsel whether this letter which has been marked as Exhibit 5 is intended in any way as an impeachment of the testimony of Doctor Branner?

Mr. Lewers—I wouldn't say that, Mr. Mills, because I don't think Doctor Branner is a man that is open to impeachment. But it is explanatory of the testimony given by him about the particular territory referred to in this letter.

CROSS-EXAMINATION

of

EUGENE OVERTON.

The Buena Vista Land & Development Company obtained its title through indemnity state selections.

A rehearing has been asked for in this case. The Honolulu Oil Company had made a contest against the state selection made by our company upon one of the quarter sections and in March, 1912, I was served with a notice of motion which was to be made before the Secretary of the Interior on April 4th by the Honolulu Consolidated Oil Company, the effect of which was to ask for the cancellation of the state selection of the Southwest quarter of section 4. It has not yet been decided. The Honolulu Consolidated Oil Company is the successor in interest of the mineral locators on sections 2, 4, 6, 8, 12, 14 of township 32 South, Range 24 East and a quarter of section 10 in the same township and range. They are endeavoring to obtain the title on mineral locations but in order to do that they have to get the state locations out of the way first. I believe their object in initiating these contests against the state selections was for the purpose of acquiring the title because of the mineral or petroleum bearing character of the lands affected, which I have described. [1591]

JOHN A. POLLARD, a witness called and sworn on behalf of the defendants, testified as follows:

DIRECT EXAMINATION.

My home is in Bakersfield, California. I am a su-

perintendent of drilling and also a drilling contractor and have been engaged in the oil business about 16 years in California, Texas, Louisiana and Old Mexico.

I first went into the West Side fields in Kern County about three years ago, at which time I went to the Buena Vista Hills, to the property of the Honolulu Consolidated Oil Company in township 32-24. I went to work for this company in October, 1909. This company was then drilling a well on section 10 of township 32-24 which had reached a depth of about 1600 feet, and was producing about twelve million cubic feet of gas per day. They were unable to cope with this gas with the methods they were using and I was employed to see what I could do with it. I succeeded in stopping the gas pressure so as to enable us to proceed with the work and drill the well further down and made the first discovery of oil that was made in that section of the country. This discovery was made on February 2, 1910.

The immediate result of this discovery was a considerable commotion in that Section of the country and to the north and west particularly. The next morning after the discovery I, with my field glasses could see that there was great activity across the valley to the north and the teams were hurrying in there with tents and provisions and material preparatory to building camps and drilling wells. This extended almost entirely across the south portion of the Elk Hills.

After that time I was over in the Elk Hills myself

as I was particularly interested in that section of the country. I did not visit any particular property but visited the whole country in general. I was at the Kinsey well and on properties operated by the Hart Oil Company, Associated Oil Company and several others [1592] whose names I do not remember at this time.

Those wells were all situated in the Elk Hills. It would be impossible to state the number of times that I have been over there between 1910 and January 1st, 1912, but my attention was attracted towards that section of the country on account of seeing the vast development that was going on since the discovery of oil on the property which I was occupying.

I was last in the Elk Hills in 1912 at which time there was very little going on there. There had been considerable development prior to that but when I was there very little was being done. I think the Associated Oil Company was drilling at that time.

As a result of my experience in the oil business and upon my knowledge of the Elk Hills country and the Buena Vista Hills and the surrounding country and my observation of what has taken place there, I would not advise a man who had capital to invest in the Elk Hills with the hope of finding oil in paying quantities. Oil men generally disregard the Elk Hills and think that it is not oil bearing territory.

I am familiar with the general opinion concerning the Elk Hills and I have confidence in the men who drilled wells there and from my own knowledge I

would not want to invest any of my own money in that locality.

In speaking of the Elk Hills as not being oil territory I did not include the territory where the Associated Oil wells are situated. I have no particular knowledge of the amount of oil that has been produced there and think that perhaps that territory might be commercial, but it would not be a very paying commercial proposition and according to my recollection I don't think they have produced more than 150 barrels a day and I don't know that they have shipped out any at all.

We have not found that the oil is persistent over the [1593] territory in the Buena Vista Hills. There have been many dry holes drilled which prove this. On section 18 of township 32-25 a well has drilled 5,000 feet deep and made no discovery of oil, although they had some gas. On section 2 of township 32-24 they drilled over 4,000 feet and no discovery of oil has yet been made. On section 22 of township 32-24 a well has been drilled 3200 feet deep and no discovery of oil made.

According to my observation and experience it is a very common thing to find that oil-sand cropping at one place will not be encountered by wells drilled at some distance from that place. Such instances are very numerous and have been revealed in the Buena Vista Hills by the wells I have referred to. It frequently happens that oil may be found at one place in a particular formation and a short distance away oil will be found in another well in a different forma-

tion without there being anything on the surface to indicate a change.

I am now engaged in conjunction with Mr. Ralph Arnold, geologist, in preparing a paper on the conservation of hydrocarbons and light oils, which work is being done under the direction of Dr. Holmes of the Government Bureau of Mines.

There are anticlines to my knowledge in the Buena Vista Hills. We have one that started on section 5, Township 32, South, Range 24 East, and it runs in a Southeasterly direction across township 32-24 and there is an anticline that runs almost at right angles with this one and goes across the SP of 11 in the same Township at almost right angles. If there are any others in that township I don't know of them.

### CROSS-EXAMINATION

of

JOHN A. POLLARD.

I believe that the well I referred to in the Elk Horn valley as being the most Easterly well is known as the Boston [1594] Pacific and is located on section 32, Township 31 South, Range 24 East. If that well is producing oil I don't know it. Some of the wells in the Elk Hills have been drilled by rotaries and some by standard tools. In using a rotary if the head of the well using the rotary is not connected by means of a "T" to the outside of the derrick you might probably pass through oil and not discover it. I believe that the Pyramid well has an immense gas pressure from the 3500 foot level down. I know as a driller for the Honolulu Oil Company that within

one and a half miles of the Pyramid that there are two good wells in section 12, township 32 South, Range 24 East, which are owned and operated by the Honolulu Consolidated Oil Company. I drilled one of those wells. I didn't mention this in my direct examination because I didn't see any need of it. I heard Mr. Overton's testimony in which he said that the Register at Visalia had decided on section 12, Township 32 South, Range 24 East, in favor of the state selection and against the oil claimants and I know as a matter of fact that there are several wells on that very section producing petroleum today. If I testified that on section 2, Township 32 South, Range 24 East they had drilled a dry hole it was a mistake. What I intended to say was that they are now drilling on Section 2 but have not yet gone into the oil stratum. I was up in that township about sixty days ago and there is one good well on section 11 and one on section 10, both within a mile and a half of the wells on section 2. There are also good wells within a mile and a half of this well on section 2, section 4 and section 12. Within a mile of section 2 that I have mentioned there was a well brought in by the Honolulu Company on section 10 which produces twelve million cubic feet of gas a day and also produces one hundred barrels of oil a day. All the dry holes that I have mentioned are situated on the flank of the Buena Vista Hills or out in the flat. I do not pretend to be an expert on anticlinal axes. I confine my activities to drilling [1595] and getting the oil out of the ground. I am no longer in the

employ of the Honolulu Consolidated Oil Company. Jack Whaley succeeded me as superintendent. I don't think I should be compelled to tell why I left the Company and I refuse to tell unless I am ordered by the Court to do so.

CHARLES H. ALLISON, a witness called and sworn on behalf of the defendants, testified as follows:

#### DIRECT EXAMINATION.

I live at Glendale in Los Angeles County, California. My business is that of expert well shooting. In other words I am a dynamiter. I am a member of the firm of Allison & Berry and we carry on our operations in all the oil fields of the state.

I have been in California since 1895, and have been in what are known as the West Side fields in Kern County. I first went to those fields in 1900 when I made a trip to section 22 of township 32-23 to what is known as the Bay City oil property. At that time I was selling oil well supplies for the R. H. Herron Company of Los Angeles. I was connected with this company as a salesman in that territory from early in 1900 up to April, 1903. At that time I went into business for myself renting oil well fish tools with my headquarters at Bakersfield. I continued to cover the Kern River, Sunset, Midway and McKittrick fields, going in there on an average of perhaps twice a month.

From 1900 up to 1905 I was familiar with all of the oil development that had been carried on in the

West Side fields. At McKittrick the development was near what we called Olig Station a mile or two from McKittrick.

I am familiar with the Elk Hills and have been through them a great deal. My name appears upon some locations that were [1596] made there on January 1, 1901, together with the names of R. S. Ashton, Fred Kugler and others. We did nothing with these locations but allowed them to lapse.

In 1903 or 1904 I sold some pipe to Frank Lowe, Hoy and others who were drilling for oil near Buena Vista Lake in the vicinity of section 12 of township 30-24.

I have recently had occasion to go into the Elk Hills a number of times in connection with my business of well shooting. We dynamite wells for various purposes. Sometimes we are called on to dynamite casing when it is desired to pull it out and to abandon the well and we also do it for various other purposes.

On December 13, 1911, we shot off the casing of the Green and Hutchinson well in section 4 of township 31-24 for the purpose of pulling the casing out of the well and abandoning the well. There was no showing of oil at that well at the time we were there.

In October, 1911, we shot off the casing in the Scottish well in section 20 of township 30-23 so that it could be pulled out and the well abandoned. We also shot off the casing in the Hart well in section 13 of township 31-23; the Standard Oil Company well in section 16 of township 31-23 on December 3, 1912, at

a depth of 3162 feet; and a well for Lindeman & Howk in section 4 of township 31-24.

### CROSS-EXAMINATION

of

CHARLES H. ALLISON.

I know that these wells were being abandoned because I am a practical man and know that the owner of a well is not going to shoot off one string of pipe after another in a well that has cost twenty-five or thirty thousand dollars unless he [1597] intends to abandon it.

My opinion is not based on any personal knowledge, certainly not, it is based upon hearsay and my judgment of the surrounding facts. I have no personal knowledge of the ultimate intent of the parties that employed me to shoot these wells and that is true as to all that I mentioned.

I did not believe in these locations in which my name appeared in the Elk Hills enough to put any money in them, although I did contribute toward the expense of recording the notices.

I saw specimens of sands taken from the side hills and from the gulches and the canyons from the outcroppings in Township 30 South, Range 23 East and believed in the mineral and oil character of the land as prospects and I contributed money to set up the stakes and give notice of our claims upon the ground. Several of my co-locators went out on the land and placed the location notices and after examining the land they returned and brought with them and showed me numerous specimens of bituminous rock

and a mixture of that rock and asphaltum which when a match was applied burned indefinitely. I knew Mr. J. B. Treadwell. He was in charge of the drilling and oil operations of the Southern Pacific Company out in the West Side fields. From my knowledge of Mr. Treadwell's operations I do not think that the selection of oil lands for the Southern Pacific Company or the Southern Pacific Railroad Company, was left so much to the discretion of Mr. Treadwell as it was to Mr. Josiah Owen and Mr. E. T. Dumble. I know that in 1901, '2 and '3 that they were examining lands in and around McKittrick to determine the oil possibilities of those lands. I know E. T. Hoy, Dan Hoy, Frank Lowe and a man by the name of Bone and one by the name of Cochran. They were all interested in what was known as the Western Union Oil and Development Company and they had their offices at Bakersfield. I know that in 1902 that they [1598] sunk a well near the section corner common to sections 1, 2, 11 and 12 of Township 30 South, Range 24 East. That they went about 1000 feet and secured some gas. I supplied them with two strings of casing for that well, also with a gas heading to retain and hold that gas and they connected up the gas with a range and used the gas for cooking and heating purposes. They had some financial troubles just about that time and their finances becoming exhausted they quit work there. This well is on the South slope near the East end of the Elk Hills. At the time that these parties quit work on that well they owed me some money and the casing was pulled to

help pay debts. In my trips into the Elk Hills since I located there I have seen out-croppings of asphaltum and bituminous rock similar to the samples that were shown to me in Bakersfield by my co-locators. [1599]

C. H. MEVES, a witness called and sworn on behalf of the defendants, testified as follows:

#### DIRECT EXAMINATION.

I am agent for Wells Fargo & Company at McKittrick and have been living there for about five years. At one time I lived at Buttonwillow. I was agent of the Southern Pacific Company at that place from 1893 until 1905. I knew all of the men around Buttonwillow who were working for Miller & Lux. At the end of 1899 or early in 1900 together with some of the employees of Miller & Lux, I rode out into the Elk Hills and made some locations. Nothing else was done with these locations as we figured we could hold the land and if there was anything in them we would have a chance to get in on it and if they were of no value we were not out much.

Shortly before we made these locations there had been an oil excitement in the Kern River and McKittrick fields and that led us to take this land up in the hope that it might prove to be all right at some time. In making these locations we looked for shale on top of the ground. We were greenhorns and had been told that if we found shale we would probably find oil. We did find some shale and we made the locations because of this discovery and because the land was

vacant. None of the men who were in on these locations were oil men.

In the next year I think we took up some land back of Carneros Springs about 30 miles northwest of McKittrick. We did some assessment work on the claims at that place and I think we spent three or four hundred dollars but we never did any drilling. We never did any assessment work, however, in the Elk Hills. I never went back there to make any locations but the others may have done so.

The recent excitement in the Elk Hills began about three years ago but there is no excitement there now and things are very quiet. The general impression amongst oil men and [1600] others at McKittrick is that the Elk Hills territory is no good for oil.

#### CROSS EXAMINATION OF C. H. MEVES.

I was located at Buttonwillow for eleven or twelve years and continued to work for the Southern Pacific Company at that place and other places until 1909 or 1910.

About the year 1900 while I was agent at Buttonwillow I used to see Mr. J. B. Treadwell, the Southern Pacific oil man, around there. It seems to me that he was around there for six months or a year. They didn't have any daily trains from Buttonwillow to Asphalto and he used to come on one of the railroad motorcycles and he used to frequently stop at Buttonwillow. After they put the regular daily run on I didn't see him so often; once in a while would see

him when he passed through. He was employed at that time by the Southern Pacific Company looking after their oil lands at and around McKittrick and the West side field and he was also examining lands for their oil possibilities and it was on his judgment, so far as I know, that the Southern Pacific company selected oil lands around that country. I knew a man by the name of E. T. Dumble, who was in the employ of the Southern Pacific Company as Consulting Geologist. I had just a slight acquaintance with him. I also knew a man by the name of Josiah Owen. I have seen Mr. Dumble in and around the Elk Hills but I don't know that I ever saw Professor Owen there. This was along in 1902 or '3 but I am not positive as to the year. I have seen these gentlemen together driving. At that time Mr. Dumble was the head man of the K. T. & O. and all his foremen and employees reported to him and they would send lots of mail from the offices. All the reports went to him. I handed lots of telegrams to him about the daily production of oil and all that kind of thing. Mr. Owen's business was merely looking the ground over.

We made these locations in the Elk Hills because the oil [1601] excitement around there affected us and we thought that we might have a chance to make something if there was oil there.

The only time I went out for the purpose of making these locations must have been on New Year's day of 1900. I cannot say that we thought well of these locations at that time as we did not know anything

about the land. We were just like others who were taking up land on the chance that it might turn out to be all right and we didn't know anything about oil at all. We understood that that we could make our locations and that we had two years in which to do our assesment work and that we could hold on to the locations for that time and see what turned up.

My wife and I were interested in numerous locations in the Elk Hills after 1903. Our interests consisted in having our names placed on the location notices by other parties.

After the drop in the price of oil at McKittrick we lost interest in these locations. We didn't think enough of the land to want to put any money in it. There were no companies coming down that way to prospect the land so that we could get a line on what was in them.

C. A. BARLOW, a witness called and sworn on behalf of the defendants testified as follows:

#### DIRECT EXAMINATION.

My home is in Bakersfield, California, where I have lived since January, 1901. During that time I have been engaged in the oil business and mining business. From 1896 to 1898 I was a member of Congress from the Sixth District of California.

My experience in the oil business has been largely in the Maricopa and Midway field. I had a small interest in an oil company at McKittrick. I first went into the Midway in January, 1901, and from that time up to 1905 I went all over the fields there pretty gen-

erally and particularly the country known as the [1602] Midway and Maricopa field. The occasion for going over this country was that my partner, Mr. Hill and I were engaged in the preparation and publication of annual maps of the oil fields and I personally collected a great deal of the data for these maps in the fields. Mr. Hill did most of the office work in connection with the publication.

As a result of my observations in collecting this data I found that prior to January 1, 1905, the oil development was confined to the field running from Maricopa through the Midway up to what is known now as the north Midway field and then to the McKittrick field. This development was along the northeast side of the Temblor Range of mountains and varied in width from two to three miles out to the foothills of the range. At that time it did not get away from the foothills any distance to speak of.

During those years I was interested in sections 23 and 25 of township 32-23 Mt. Diablo Meridian and also in sections 2 and 3 of township 11-24 San Bernardino Meridian.

We were producing oil in three different places in sections 25 of township 32-23 on what is known as 25 Hill. We were also interested in the Sunset field in the Adeline Oil Company and Adeline Extension Oil Company.

I am acquainted with the hills known as the Elk Hills and went in there for the purpose of drilling for oil in the spring of 1910. The statements in Bulletin No. 406 written by Ralph Arnold and Harry

Johnson had a great deal to do with our going in there. We took over some locations that had been made by others in sections 2 and 3 in township 31-24. We put up derricks and began drilling a well on the southeast quarter of each section. Both of these wells were drilled to a depth of between 1250 and 1400 feet. When we started the wells we were led to believe by the statements in Bulletin 406 that we would get oil at a depth of about 1300 feet. When we had gone to this depth [1603] without striking oil we delayed further operations to see what result Mr. Kinsey would get in his well on Section 12 in the same township. He drilled to a depth of about 4800 feet and abandoned his well and we then abandoned our wells and moved off everything that we could move to any advantage. This development work cost us something over \$72,000.

At the time we went in there there were a great many of the large producers commencing operations in the Elk Hills, including the Esparanza Company, the Balfour-Guthrie Company, Union Oil Company, Associated Oil Company, and Hart Oil Company.

I endeavored to keep reasonably well posted on the work that was going on in that country especially at that time as we were getting out the map books I have already mentioned. In collecting data for these maps I always endeavored to ascertain whether a well was producing oil or not. We endeavored to have our maps show the situation and development as accurately as we could get the information and I think that our books were considered to be the most reliable

that were ever published in connection with that field. On account of the reputation of these books the operators were very glad to give us information in connection with their wells.

I was in the Elk Hills last in the spring or summer of 1912. At that time there was no work being carried on there and the different operators of whom I have spoken had either shut down or moved out.

I would not advise anyone to go into the Elk Hills now and expend money with the expectation of finding oil. I certainly would not go there myself and I would not have gotten out of there if I had any idea of getting oil. I do not profess to be a geologist and base my conclusion upon my practical experience as an oil operator. I would rather take a practical operator's opinion of an oil territory than that of any geologist I ever saw. [1604] I have good reason for saying this because I know that the Kern River field was turned down by every geologist who examined it and yet a wonderful oil field was developed there. The locators who hired geologists during the excitement at Kern River were all advised by these geologists to go northeast from the discovery up toward the river. They got no oil there at all and the other fellows who went out into the field and took what was left to the northwest got the Kern River field.

Our withdrawal from the Elk Hills was not due to financial difficulties. We had spent all the money that we cared to spend there and had reached the

conclusion that it was not practical to develop oil in that territory.

## CROSS EXAMINATION

### OF

### C. A. BARLOW.

I put up between eight and ten thousand dollars of my own money and my partner, Mr. Hill, put up a like amount for this development in the Elk Hills. We concluded from the fact that Mr. Kinsey had failed to find oil and from the other drilling around there that we should abandon our property.

Q. However, the amount that you yourself spent was eight or ten thousand dollars? Is that right?

A. Yes sir; something of that kind. But I will say, further than that, that when we moved out of there of course we were short of money in the treasury to pay our bills, and Mr. Hill and myself paid several thousand dollars of money that other fellows who owned stock in the company should have paid whom we had invited in, but we didn't feel they were able to carry it.

Q. You were somewhat influenced in abandoning your attempt there on Sections 2 and 3 in 31-24 by the results obtained by Mr. Kinsey in the well near there?

A. Yes sir. [1605]

Q. In which he had gone somewhat deeper?

A. Yes sir.

Q. Now, that well of Mr. Kinsey's was sunk in the neighborhood of 4000 or 4500 feet?

A. Something over that, I think. I don't remember just what the depth is. I think it was very nearly 5000 feet.

Q. And to what depth had Mr. Kinsey's well been sunk at the time you withdrew your tools from Sections 2 and 3?

A. He had abandoned the well before we withdrew them.

Q. And you judged from his failure at that time to get oil that it would be useless for you to proceed further?

A. Yes; that in connection with other drilling around there.

Q. You were largely influenced by his failure to get oil there?

A. That was one of the influences.

Q. Did you pursue your investigation far enough to know that the plunge or dip of the anticline on the Elk Hills is toward the Kinsey well, and that there would be very little possibility of Mr. Kinsey ever getting any oil there at all?

A. That might be possibly proved to be so, although the Esperanza had a very deep hole right south and got nothing.

Q. And that is owing to the condition of the dip of the anticline?

A. I don't know. It might be.

Q. In other words, you didn't pay much attention to the dip of the anticline at the time you located those wells?

A. I read Mr. Arnold's report very carefully and formed my own conclusion.

Q. Can't you make that answer more specific? (Question is read by the reporter.)

A. Yes; we took considerable time and paid a good deal of [1606] attention to studying that out—Mr. Hill and myself.

Q. Did you have the advice of any geological expert?

A. No; we don't go very much on geological advice.

Q. And you had no advice from any geologist on those questions?

A. No. I wouldn't pay a geologist a cent for any information he could give me on the location of a well.

Q. And you have entertained that opinion ever since you have been in the oil business?

A. I have—no; I won't say that. Hold up. I won't say that. That is the result of my observation in the twelve years I have been in the business.

Q. And yet we find you in the spring of 1910 going in on the advice of Mr. Arnold into the Elk Hills?

A. Yes sir; that was one of the factors. Everybody was going in.

Q. Which is the fact—that you went in on the advice of Mr. Arnold or that you went in on your own initiative and the combined judgment of yourself and your partner, Mr. Hill, on Section 2 and 3, 31-24?

A. That report, I think, probably somewhat influenced the movement that way. Oil men were go-

ing in there. Operators were going in there, and we naturally went along with the rest, you might say.

Q. Well, did you naturally go or did you go because of Bulletin 406 that was prepared by a geologist?

A. Well, I would say that Bulletin 406 might have had something to do with our going there, but it was not a determinative factor.

Q. Well, you had formulated the opinion prior to 1910 through some ten years' experience in the oil business that a geologist's opinion was of no value to you. Would it then [1607] have had any influence in determining the location of those wells by you and your partner?

A. Oh, it might have been a factor and probably was. But I am not a very great admirer of geologists' reports.

Q. Was your opinion strengthened or weakened by your experience in Sections 2 and 3 that you have described?

A. It was strengthened, I suppose.

Q. And it was largely strengthened because of the limitations placed in that report at 1300 feet, was it not?

A. No, no. If we had had any idea that we could get in there from the development work going on around there that there was oil at 3000, we were prepared to go down.

Q. You know, do you not, Mr. Barlow, that oil has been discovered in Section 30, 30-24, and in Section 24 and 26 in 30-23?

A. I have seen the oil in Section 30 and Section 26.

Q. So that you know that discoveries were made there?

A. Yes sir.

Q. At what depth was that discovered?

A. I don't remember off hand.

Q. Can you approximate it for the benefit of the record?

A. No, I don't think I could endeavor to do that. It is a matter of conjecture.

Q. Did I understand you to say that you kept in close touch with the operations in the Elk Hills and elsewhere that were embraced in information conveyed by your maps and books published by you and Mr. Hill?

A. Yes sir; but not particularly to locations of the wells or particularly to the depths at which oil might have been discovered.

Q. Generally as to the fact whether oil had or had not been discovered? [1608]

A. Yes sir; that was it, largely, as near as we could get it.

Q. A practical operator does not pretend to know, does he, whether or not oil is below the place where he stops his drill?

A. Oh, when a man is wildecating he generally goes on till he satisfies himself or is satisfied by the operations on adjoining property that it is useless to spend any more money. I am operating right to-day—

Q. I will repeat the question. Does a practical operator, from your own experience, from what you know of the oil business, pretend to know, after he has stopped the drill at a certain level, whether oil does or does not exist to a certainty below the point where he stops the drill?

A. It depends on where he is operating. If he is operating on unproven territory, any man is a fool to pretend that it is below there for a certainty.

Q. Does a practical operator in proven territory pretend to know that oil exists or does not exist to a certainty below the point where he stops his drill?

A. No sir. No man in drilling an oil well can say to a certainty that oil exists at a certain point, because right in the heart of proven territory, with wells all around, I have drilled absolutely dry holes away below the depth at which the oil had been found.

Q. Then you are not able to determine yourself whether oil exists below the point where you abandoned your wells in Sections 2 and 3?

A. No sir; I am not able to determine it as a fact.

Q. You do know from the experience you have and the knowledge which you obtained in those oil fields that the Elk Hills are deep and expensive territory, do you not, that that is the fact? [1609]

A. Well, probably that has been determined.

Q. Were you present on Section 30 when they brought in the 350-barrel well—the Associated Oil Company?

A. No sir; I was not.

Q. You don't pretend to know what the capacity of any of those wells is, do you?

A. No; but I would make a guess from the information that I have gathered—

Q. I am not asking for a guess.

A. I will state as a fact, the way you gather any information—

Q. You need not volunteer any hearsay information, because it is not responsive to my question. I am asking you if you know of your own knowledge?

A. No; I do not know of my own knowledge.

Mr. Lewers—And nobody else does.

A. No. He wouldn't let me say that.

Q. By Mr. Mills—You don't mean by your attitude, do you, Mr. Barlow, to incumber the record with observations not responsive to the question?

A. No, no. I don't mean to do that.

Q. You have no special interest in the Southern Pacific Company in this case, have you?

A. Not a particle in the world.

Q. Have you had any previous political affiliations with that company or its representatives which would embarrass you in any way?

A. My political record might speak for that. I may say that I got the first \$400,000 appropriation for Los Angeles harbor against the worst fight that was ever made by the Southern Pacific Railroad in this state. So my affiliations were not particularly with the Southern Pacific Railroad. [1610]

Q. You were interviewed by representatives of

the government about a year ago, were you not?—By Mr. Gardner?

A. I can't tell. A great many men have come into our office. We don't know whether they are representatives of the government or who they are.

Q. And Mr. Gardner, a special agent of the general land office, approached you on or about a year ago as a prospective witness for the government in this case?

A. I can't remember.

Q. And stated to you that he was a representative of the government and my office?

A. I don't remember that. A great many men come into the office.

Q. Does your recollection go back clearly enough to remember that you told him then that you believed the Elk Hills are good oil territory, but that you didn't want to be mixed up in this case?

A. No, no. I made no such statement as that.

Q. That your relations with the railroad company were pleasant; that you had nothing against them or for them; and that you desired to keep out of this case? And that you privately entertained the opinion that the Elk Hills were good oil territory?

A. After I moved my rigs out of there?

Q. About a year ago?

A. No; I never told anybody after I moved out of there that I considered the Elk Hills was good territory.

Q. Will you state that you did not say that you

regarded the Elk Hills as good oil territory and did not want to be mixed up in this case?

A. No; I won't say that. I will say that I did not make a statement that I considered the Elk Hills good oil territory [1611] to anybody.

Q. And, for that reason, did you not ask Mr. Gardner not to subpoena you because you thought your relations with the Southern Pacific were pleasant and you didn't want to be mixed up in the case?

A. No; I don't think I made any such statement as that. I don't see why I should. I would just as soon tell what I know as to my opinion to the Southern Pacific as I would to the government of the United States.

Q. Are you still in partnership relations with Mr. Hill?

A. Yes sir.

Q. Mr. Hill testified in this case, and I think it was on April 16th of last year, at page 13 of the reporter's transcript. He was examined with reference to a certain map which accompanied one of your books published in 1904, as follows: "Q—Now, referring to sheet marked Range 21 East, 22 east and 30 south, 'McKittrick Oil Fields,' will you explain how that map was constructed by you? A—We have copies of all these separate townships, obtained at the land office in Visalia, giving the outline and the acreage and survey directions in our office. From this I compiled these maps myself, as far as the outline is concerned and the acreage. The other data on the maps was obtained, nearly all, by personal

visit. The other data consists principally in the location of oil wells or oil drilling rigs or abandoned wells. That is the data that I speak of as obtained by personal visit by myself through the fields, most of it." Is that correct?

Mr. Lewers—In all fairness I will say that in cross-examination Mr. Hill corrected the last part of it.

A. I think Mr. Hill will admit himself that I did most of the outside work.

Q. By Mr. Mills—Is Mr. Hill in error or is he correct?

A. I don't know that he is in error. He did some of it [1612] too. I will make the statement that I do most of the outside work of the office.

Q. I am speaking of 1904?

A. Yes; 1904 too. I always have done most of the outdoor work.

Q. What do you say about that statement? Is it correctly stated or incorrectly stated?

A. When we speak of ourselves we speak of the firm of Barlow & Hill. When he spoke of the gathering of information he was speaking of the work gathered by Barlow & Hill.

Q. He used the words "personal visit by myself".

A. He does a great deal of it.

Q. The question asked is, did he state the fact correctly according to your knowledge, or incorrectly?

Mr. Lewers—Objected to as an attempt to impeach the testimony of the witness Hill, a witness on behalf of the government; and, further, that counsel is un-

fair by not referring to the testimony of Mr. Hill on cross-examination.

Mr. Mills—I intend to take that up. There is no need for any excitement on your part.

A. I will make this statement: Any statement Mr. Hill made as a witness was absolutely true. I will make that statement for Mr. Hill.

Q. So, if he made that statement, it was absolutely true?

A. From his standpoint, yes sir; and I make the statement that I gathered most of the outside data, and I make it with the same emphasis that it is absolutely true from my standpoint. If you want to determine that factor, if you will call Mr. Hill he will tell you that is a fact.

Q. On cross-examination Mr. Lewers asked this question, at page 17 of the reporter's transcript: "Mr. Hill, was all of the printed matter in this book prepared by you? A—By me personally? [1613] Q—Yes. A—No. My partner attended to the advertisements. Q—Well, I am referring to that portion consisting of matter other than advertisements. A—That was prepared by me." Was that a correct statement of the fact?

A. No; that was not a correct statement of the fact absolutely.

Q. So Mr. Hill erred in that statement?

A. Yes sir. That is, not as to the drawing of the map, Mr. Hill drew all the maps.

Q. Mr. Hill was further interrogated as follows by Mr. Lewers: "Q—And was all of that prepared

by you as the result of personal investigation made by yourself, or was any of it based on reports made to you by other people? A—Why, a good deal of it was based on—the names of companies I got from superintendents, and such things as that. Of course, I didn't go and look at the corporation papers to find out. Q—Did you obtain any other material besides the names of companies from other individuals? A—Yes. I obtained some locations of the particular part of the property on which the well was located, from the superintendents. Q—Now, this purports to set forth locations on the ground, of various claims, or the owners of property on various portions of the territory. Did you in each and every instance verify that information yourself, or did you base any of those statements upon hearsay testimony? A—Most of them were from the parties themselves; but some of them necessarily must have been from hearsay, that is, from their neighbors. Q—Some you got from neighbors and the rest you got from the individuals themselves? A—That is, in regard to ownerships, principally. Some I got from the abstract office—ownerships." And on page 19: "A—I generally found the property and inquired who owned it. Q—Now, did you in each and every case go upon the section? A—Not every case? Q—In how many cases out of all of these that you have here [1614] (referring to the maps)? A—Only where there was development." Is that correct?

A. I should say that that was an absolutely correct statement.

Q. Further examination by Mr. Lewers at page 20: "Q—Then, this is not all based upon your personal visits to each and every claim? A—As far as these three maps are concerned— Q—I am not referring to the maps. A—I did. But in the Coalinga case I took most of that information from other parties." Is it true that Mr. Hill prepared from personal visits in the field the information which is contained in the maps?

A. I will make this statement; Mr. Hill when he made that statement was speaking of the information gathered by the firm.

Q. Mr. Hill, however, does not say that.

A. You can call Mr. Hill back and that is just what he will say.

Mr. Lewers—That is the way I understood it when he gave it.

A. When I said that I did most of the outside field work, it is a fact.

Q. By Mr. Mills—Mr. Hill has stated that you did most of the advertising work.

A. Yes; I did all the advertising work. And, if there is any question about that, I will be very glad to have Mr. Hill recalled on that proposition and asked that question.

Mr. Lewers—By the way, is Mr. Hill in town?

A. No; he left home last night. I would have given a quarter of a dollar to have him testify here tomorrow about this.

Q. By Mr. Mills—You didn't have an oppor-

tunity to read the testimony of Mr. Hill before you came on the stand?

A. No sir. In fact, I really didn't know that he testified.

Q. Now, you say you went in the Elk Hills in the spring of [1615] 1910.

A. I believe it was the spring of 1910.

Q. What month was it?

A. I can't determine that exactly.

Q. Can you approximate it?

A. I think it was in—the grass was green out there at the time we went out. It was some time in the spring.

Q. About April or May?

A. I should judge it was along about that time.

Q. Or June?

A. Or June; somewhere along there.

Q. You purchased from locators, I suppose, the rights which you claimed to operate on those lands, or did you locate them originally yourself?

A. No; we did not locate them originally ourselves.

Q. You were operating under claims which had been obtained by other locators?

A. Yes.

Q. When did you erect your first derrick? What month?

A. We erected derricks as quick as we could that spring.

Q. What month did you actually begin drilling operations?

A. I think we were drilling on the first well as early as May or June. That is just a matter of memory.

Q. You were in there subsequent to the order of withdrawal by the Secretary of the Interior of 1909?

A. Yes sir; and prior to the one of 1910.

Q. And every company which operated in that field upon locations previously made by others, and whose rigs went up in 1910, were operating subsequent to the order of withdrawal by the Secretary of the Interior?

A. September?

Q. 1909? [1616]

A. Yes. We never considered that a valid withdrawal order.

Q. And that validity and that order is about to be tested by the suits brought on behalf of the government against parties who have in defiance of that order gone upon the public domain for the purpose of extracting and mining minerals. Is that so?

A. Yes sir.

Q. So, that whatever oil you may have discovered at that time, Mr. Barlow, the title thereof might have been insecure by reason of that executive order of withdrawal?

A. I never considered it such, and the best legal advice we could get, such as Frank H. Short, never considered it such. In fact, we took the advice of Mr. Short on that proposition.

Q. And that order itself would have successfully

clouded any title which you could have had and which you might thereafter attempt to market?

A. Not in my judgment.

Q. Do you mean to say that you could have sold your land to exploiters or actual developers of oil land with the same ease as if that order had not been made?

A. Possibly not. But I would not have expended my own money if, in my opinion, the title would not have been good, if we made a discovery. Nor would I have asked my friends to put up theirs.

Q. Your withdrawal from that field was influenced somewhat, was it not, by your suspicion that you would be unable to acquire any valid or legal title to the land because of the executive order of withdrawal of September, 1909?

A. No sir.

Q. And the rigs of the Associated Oil Company were hauled onto the lands on 26, and 24, of 30-23, and on Section 30, of 30-24, just two days before the last order of withdrawal, was [1617] it not?

Mr. Lewers—To which I object as not cross-examination.

A. I can't tell you.

Q. By Mr. Mills—Don't you keep in touch with oil rigs when they are put up?

A. Not within twenty-four hours.

Q. Weren't your rigs there two days before the second order of withdrawal?

A. No sir; our rigs were on there and erected.

Q. How long before the second order of withdrawal?

A. I can't tell you how long, but they were up.

Q. Some advance notice was obtained by parties interested in exploiting the Elk Hills as petroleum-bearing fields, of the intention of the proper officers of the government to withdraw those lands from disposition for mineral purposes, to your knowledge, were they not, in and about Bakersfield?

A. I don't know that I had any information of any second withdrawal until it was made—legal withdrawal, I mean.

Q. You don't know of a single derrick there now in operation or recently closed down in the Elks Hills that was put up there before the first order of withdrawal, do you?

A. The 1909?

Q. Yes sir.

A. I couldn't tell you that off hand.

Q. Doesn't your general knowledge of the oil fields give you information on that subject?

A. Well, that is three years old. I can't remember that.

Q. You don't know of a single derrick that was up before the September withdrawal of 1909 in the Elk Hills?

A. I couldn't answer that.

Q. When was the first one put up in the Elk Hills to your knowledge? [1618]

A. I couldn't tell you that now.

Q. Can you approximate it?

A. No; I won't make an approximation.

Q. Do you think that Mr. Hill could tell?

A. You will have to ask Mr. Hill.

Q. So far as you know, neither member of the concern can now tell anything about that subject?

A. I can answer for Barlow. You will have to ask Hill.

Q. As a matter of fact, it is due, principally, isn't it, Mr. Barlow, to the fact that the information collected in the field that you publish to the world in your books is obtained largely by your partner, Mr. Hill?

A. No sir; it is not a fact. It is obtained by the firm of Barlow & Hill.

Q. Do you subscribe to the paper known as the California Oil World, published in Bakersfield?

A. Yes sir.

Q. Do you read the papers?

A. Sometimes, and sometimes not. Generally not, to tell the truth.

Q. Then you don't keep track of the information contained in the Oil World relating to the oil lands generally?

A. Sometimes; yes.

Q. Don't you know that the Oil World published a few weeks before July 2, 1910, contained articles relative to the possibility and probability of the last withdrawal order?

A. That might have been true. I can't say that it was. I do not doubt that it was true, for the reason that everybody considered the first one without any

force and effect, and they have expected them to make a legal withdrawal as authorized by Congress.

Q. Mr. Barlow, you testified day before yesterday against [1619] the government in the case of the United States versus D. B. Harris, involving the homestead entry in the southeast quarter of Section 4 of 11-23, S. B. M., did you not?

A. I believe that I did.

Q. How far distant are Sections 2 and 3 and 31-24 from Section 35 in 30-23?

Mr. Lewers—To which we object on the ground that it is not cross-examination. It is a matter of computation which counsel can do as well as anybody else. I suggest, Mr. Mills, that you take a map and measure it.

A. I haven't got those sections clear in my mind now.

Q. By Mr. Mills—35 is the nearest lands to Section 2 and 3 on which you operated—which are involved in this suit?

A. Is that 35 in the same township?

Q. No; 30-23. It would be the township cornering onto the northwest.

A. Well, it would be practically 6 miles, I should judge. It would be across all of 30-24 diagonally. About 6 or 7 miles.

Q. Your experience in Sections 2 and 3, which you described in 31-24, would have no bearing whatever on the oil-bearing character of Sections 15, 17, 19, 21, 23, 25, 27, 29, 33 and 35 or 30-23?

A. That is the township west—not in my judgment; no sir.

Q. The sections which I have described may be underlain with highly saturated oil-sands, and your experience there in Sections 2 and 3 would have no bearing toward the developing of that fact or anything in connection with it?

A. Not in my judgment as an operator.

Q. You don't pretend, now, Mr. Barlow, to say, from that experience or from anything that you know, that oil is not underlain, in the sections I have described, in large commercial [1620] quantities?

A. No sir; I don't know that it is not there.

Q. What is that?

A. I don't know that it is not there.

Q. You don't know that it is not there?

A. No sir. I don't believe anybody does know that it is there.

Q. You know that oil has been discovered in the even sections interspersed with those lands, don't you?

A. That don't necessarily prove that it is on the odd.

Q. No; but I say you know that fact.

A. I know that it is on 26 and 30. Those two are the only ones I know of my own absolute knowledge. I have seen it there.

Q. Now, you spoke of some fields that were turned down by geologists. Among them you mentioned the Kern River field.

A. Yes.

Q. What geologist turned down the Kern River field?

A. Well, I can't give you the names of them, but Mr. Blodget has told me —

Q. Now, Mr. Barlow, you are a lawyer yourself. I don't want any hearsay.

A. Well, but I know that is the general report.

Q. You don't know, of your own personal knowledge, do you, that any geologist turned that field down, except from hearsay?

A. Not from the names of them; no sir. Just from hearsay of the gentlemen who hired them to do the work.

Q. In other words, you have no personal knowledge on that subject at all, have you?

A. No sir; not direct from the geologist themselves. Just simply the men who hired them and paid the bills.

Q. Do you know, of your own personal knowledge, of any other field that was turned down by any competent geologist [1621] which afterwards proved to be a petroleum-bearing field?

A. I know, from my own experience, of anticlinals that have been marked out by geologists where I have drilled and failed to find oil, outside of the Elk Hills anticline.

Q. Now, will you read that question again and see if Mr. Barlow thinks that is responsive.

Mr. Lewers—I think it is perfectly responsive.  
(Previous question read by the Special Examiner.)

A. Not of my own personal knowledge.

Q. Not of your own personal knowledge?

A. Yes.

Q. You have no definite personal knowledge whatever, now, have you, Mr. Barlow, of the petroleum-bearing character of the sections which I have described in Township 30-23?

A. No; I have no absolute knowledge of the petroleum character of those sections.

Q. And you have never made any geological reconnaissance or examination of those lands, to determine for yourself, even, have you?

A. I have looked over them from a practical operator's standpoint.

Q. And you don't pretend to any expert geological information or knowledge, do you?

A. Not a bit.

Mr. Mills—That is all.

## REDIRECT EXAMINATION

### OF

C. A. BARLOW.

By Mr. Lewers:

Q. Do you believe that the Elk Hills, the lands to which Mr. Mills has referred, have any petroleum character?

Mr. Mills—That is objected to as highly improper, inas-[1622]much as the witness has stated that he has had no experience or made any geological examination of the land for the purpose of discovering whether they bear petroleum or not; for the further reason that he says he is not a geologist.

Mr. Lewers—You may answer.

A. What is the question. (Question repeated by the Special Examiner.) As a practical oil man I would not drill on them.

Q. Is it possible, Mr. Barlow, in your opinion, basing your answer upon your practical experience in the oil business, for anybody to say that he knows there is oil land unless he finds it in the drill?

A. I don't think so.

Q. You were asked, Mr. Barlow, whether or not you had testified day before yesterday, I believe it was, in a proceeding which the government has brought against Mr. Harris.

A. Yes sir.

Q. Has that proceeding been concluded here?

A. I believe it was concluded very abruptly.

Q. Did the government introduce any testimony at all?

A. They didn't put in any geological testimony at all.

Mr. Lewers—That is all.

## RECROSS - EXAMINATION OF

C. A. BARLOW.

By Mr. Mills:

Q. Do I understand you to say that the government introduced no geological proofs whatever regarding that land?

A. No sir, not to my knowledge. We were down here prepared to—

Q. I am not asking whether you were prepared for anything; I am asking you whether you did that or didn't.

A. Well, not that I know of, sir. I was told by the at-[1623]torney that—

Q. Don't you know that the government introduced a classification, showing those lands as oil lands, by Arnold & Johnson?

A. I believe they did put in that report; yes. That don't determine them as oil land by a long ways. They had a geologist there to make some testimony, but they didn't come on the stand.

Q. Were the maps prepared by Barlow & Hill prior to 1904 calculated to portray the correct development of those oil fields?

A. As near as we could gather it, yes sir. We don't claim they were absolutely correct.

Q. And were they largely distributed to the public?

A. Yes sir; very largely.

Q. And sent to all parts of the country?

A. Yes sir.

Q. And do you keep in touch with parties who desire copies of your maps so that you know generally where they are distributed?

A. Well, I know that they are distributed through a great many selling agencies; but we have calls for them—used to have—from all over the world.

Q. And you have distributed them to several officers of the Southern Pacific Company from time to time?

A. They have bought maps from us, yes sir, as well as most everybody else.

Q. And they began purchasing maps from you from the time you began publishing them?

A. Yes sir; I presume that is so.

Mr. Mills—That is all.

REDIRECT EXAMINATION  
OF

C. A. BARLOW.

By Mr. Lewers: [1624]

Q. Do you know whether any of those maps were furnished to representatives of the government?

A. How do you mean?

Q. To any field men or geologists for the government, in the nineteen hundreds?

A. I don't gather the question.

Q. What I mean is, do you know whether any of those maps were sent to any of the departments at Washington?

A. Yes sir.

Q. The United States Geological Survey?

A. Oh, yes sir, yes sir; all of them.

Mr. Lewers—That is all.

RECROSS-EXAMINATION  
OF

C. A. BARLOW.

By Mr. Mills:

Q. Those maps ran in an edition as high as 2500 to 5000?

A. Yes sir.

Q. During those years?

A. Yes sir.

Q. Including the year 1904?

A. Yes sir. We always used to send them to some parties whom we were acquainted with in the Geological Bureau—Dr Holmes and several others. [1625]

HENRY A. GREENE, a witness called and sworn on behalf of the defendants, testified as follows:

**DIRECT EXAMINATION.**

I live in Los Angeles and am a partner in the firm of Greene and Hutchinson dealing in oil and agricultural lands. I have been in the oil business since 1901 in the Los Angeles, Newhall, Kern River and West Side fields and have been connected with producing properties in the Midway field.

My firm drilled a well in section 4 of township 31-24 in the Elk Hills. This well was started in the Fall of 1910 and drilled to a depth of 2600 feet. It was drilled with a standard rig. I was present quite frequently during the drilling operations. We found good formation and some gas and one dry oil-sand in this well. This dry oil-sand was a coarse sand with a good deal of quartz in it and absolutely dry. It showed oil stain and a little odor of oil. It was not asphaltum. It was found at a depth of about 1400 feet. We did not have any tests made to determine whether or not it contained petroleum.

I do not know of any indications of oil below the 1400 foot level but the man in charge of the drilling reported that he had some signs of oil just about the

time we quit, consisting of a stain in the mud. We ceased operations in that well in May, 1911, and I abandoned and wrecked the property. It is not our intention to do anything more there unless conditions change very much. We have got to see some real oil up there before we start up again. So far as that is concerned, we have lost all right to it. It was under locations that we were working it. We spent about \$45,000 on this drilling.

### CROSS-EXAMINATION

of

HENRY A. GREENE.

Our well was two or three miles away from the Hart [1626] wells. I have been all over the Elk Hills but have not made any particular study of that field as I am not a geologist.

We found gas in our well at a depth of four or five hundred feet. This dry oil sand I have referred to was about six feet in thickness. We found this dry oil sand at 1400 feet. At 2600 feet it was reported to me that there was a discovery or trace of oil in the mud. The latter indications was reported to me just about the time we stopped drilling and were pulling out and that really didn't mean anything.

The territory in the Elk Hills looked as though it was going to be exceedingly deep and almost impossible to drill.

E. L. BATTE, a witness called and sworn on behalf of the defendants, testified as follows:

### DIRECT EXAMINATION.

At present I am living at 221 South Hill Street,

Los Angeles. I am an oil well driller and have been engaged in that business for the last 12 years. I acquired my experience in Texas where I worked in the Beaumont field. I came to California four years ago. I have drilled over most of the Midway field and at Coalinga and have been using the rotary system which I used in Texas. I have not had much experience with the standard rig.

I had charge of drilling the wells for the Hart Oil Company in sections 11 and 13 in township 31-23 in the Elk Hills. I took charge of this drilling when the well in section 13 was down 1300 feet and that in section 11 was down 1100 feet. I drilled the well in section 13 to a depth of 3650 feet and the well in section 11 to 2100 feet using a rotary drill in this work.

About the only formation we had all the way down was blue shale and the use of the hydraulic system naturally washed [1627] that formation and we kept a bucket on the discharge and washed the formation out to see whether there was any oil or not. After we had got to a depth of twenty-three or twenty-five hundred feet we put a T on top of the well and ran a pipe from that and put a tub under the discharge in order to catch the formation. We found no oil in this well. I am certain that we passed no oil in sinking this well or the one in section 11 as we could not do so without discovering them.

I say this because we were practical drillers and we watched the formation very closely and I do not think there was any question that we would have known if oil had been encountered. I was particu-

larly interested because I had an interest in the company myself as I owned \$2700 worth of this stock. After we reached the depth I have mentioned, the operation of the wells was abandoned and a watchman was put in charge of the property. I understood since that time the casing has been pulled out of the wells.

I would not advise anybody to invest money in the territory surrounding the Hart wells with the expectation of finding oil.

I would not invest any more of my own money in any part of the Elk Hills because I have no confidence in that territory as an oil proposition.

### CROSS-EXAMINATION

of

E. L. BATTE.

When I took charge of the Hart wells the one on 11 was down to 1100 feet and the one on 13 was down to 400 feet. I have no personal knowledge of what the well passed through before I took charge. I do not know whether they discovered gas in the well on section 11 before they reached the [1628] 1100 foot level or what oil sands were passed through in the other well on section 13 before they reached 1400 foot level. On these wells we worked a day and a night shift. I did not work on either shift. I was in charge of the wells. I worked there from June, 1910, to January 5, 1911, and was around there considerable. When I was not at the wells I would be on the lease or at Taft. When I was not present at the well I do not know

what the drill passed through or what formations were passed through or whether it passed through oil formations or not and there were times when I was visiting other wells when I was not at the wells on 11 and 13 at all. I do not know what the oil bearing formation or the actual geological formation is under section 15, township 30 South, Range 23 East, or of section 19 or of section 29 in the same township. As a common driller I don't know what difference it would make whether we put a "T" connecting the head of the well with a discharge pipe at the edge of the derrick where we were using a rotary although we did put one on the well in section 13 between twenty-three and twenty-five hundred feet because it made it handier to let the stuff run out into a tub although it did not facilitate any definite information with reference to the formation. I don't pretend to have any definite information of the geology or underground formations of any of the lands in Township 30 South, Range 23 East, so that whatever information I have about the wells on the property would have no bearing whatever upon the lands in this suit and as a driller I do not know what formation is below the drill and there might be the finest kind of petroleum bearing sand where we stopped and I not know it. I do not agree with Mr. John A. Pollard, who was on the stand before me, in his statement in the article which he wrote in the *California Oil World* on April 18, 1912, in which he stated: "In order to log a rotary well correctly a discharge pipe should be connected with the head of the well by means of a

"T" to the outside edge of the [1629] derrick. This is very seldom done by most of our drillers and the result is that if it is not done that the formation becomes mixed in the sluice box under the derrick so that the driller is unable to get correct samples."

I hardly think that many failures are made in this business through negligence. In other words, it does not make any difference whether a fellow is negligent or not, if he is lucky he gets oil.

### REDIRECT EXAMINATION

of

E. L. BATTE.

I went to the well once since it was closed down and found that there is salt water in it now. The presence of this salt water influences my opinion of this territory because it has been my experience that oil is not found below the point where salt water is struck. Of course you could not tell but I would not think so. Of course I do not mean to generalize from my experience that no oil is found below salt water as it may be.

In drilling these wells we took more than usual precautions because they were prospect wells and the drillers as well as myself were stockholders in the company. [1630]

T. M. STORKE, a witness called and sworn on behalf of the defendants, testified as follows:

### DIRECT EXAMINATION

My home is in Santa Barbara, California, where I

have lived for 36 years. I am a newspaper publisher and own the "Santa Barbara Independent."

I have been interested in the oil business and went to McKittrick for the first time in December, 1909. Several months after that I went into the Elk Hills, where I was interested as one of the organizers of the Scottish Oil Fields Limited, which operated on Section 20, 30-23.

This company was organized in the spring of 1910, and started active operations a few months later. The incorporators were mostly wealthy people who spend their winters in Santa Barbara.

After we started our operations, I spent a great part of my time in the Elk Hills, from the time we started in October, 1910, until November, 1911, when we ceased operations. There were three or four months of that time that we ceased operations. During this time I was in touch with the operations practically every day.

My company drilled a well in Sec. 20, 30-23, 4,005 feet deep. We used standard tools for 2200 feet and a rotary the rest of the way. I had charge of this work and the drilling was carried on under the advice of Mr. L. J. King, who was a superintendent of the Associated Oil Company in that territory. He was frequently on the ground where we were drilling—sometimes not more than once a week but at other times twice a day, depending on the importance of the work at the time.

After we started the use of the rotary we gathered the cuttings from the drilling all the time and took

samples twice a day, during the first period of the drilling, for the purpose of [1631] testing the formations and to see if there was any possibility of there being any oil. At other times we took samples every half hour. These samples were referred to Mr. King and to Mr. John Lang, who was superintendent of the Hill Crest Company, which company shared part of the expense of our drilling.

We did not find any oil whatever in this well and have abandoned it and it is not our intention to resume work. We have pulled out the casing and sold it. We sold the rotary and standard outfit used in drilling this well to Captain Barneson, Vice President and General Manager of the General Petroleum Company. We tried to sell him our rights in the ground but he said that he did not care for them as he did not think that that land was worth anything.

We arranged with Mr. King of the Associated Oil Company that he was to act in an advisory capacity in connection with our drilling, in return for 5,000 shares of stock which we agreed to take off his hands at \$1.00 a share in the event oil in paying quantities came in. Outside of that he received nothing. He received daily reports from our head driller and employed our crew and in fact sent over employees from the Associated Company's property. In addition to this, the Associated Company lent us a great many tools and materials and we also used water that they had brought from the Buena Vista Lake, a distance of eight or twelve miles. We paid \$200 a month, however, for this water.

I often made rounds with Mr. King in his daily visits to the different properties of the Associated Oil Company on sections 22, 24 and 26 in Township 30-23 and section 30 in Township 30-24, and was familiar with what was being done there by the Associated Oil Company. When we had reached a depth of 2200 feet in our well, with the standard tools, we were about to abandon the drilling but resumed it on account of the showing in the Associated Company's well on section 26, 30-23. Mr. King encouraged us to do this. When I first thought of interesting my [1632] friends in that field, Mr. King discouraged me and told me time and time again that he did not think there was a drop of oil in the Elk Hills and that he had so advised his own people but that they were going ahead contrary to his advice. Later on he became much more encouraged at the prospects.

We were also encouraged in going in there by Mr. Ralph Arnold's Bulletin No. 406, but I cannot say that that bulletin caused us to go in there. I also read a report that he made on Sec. 30, 30-23 for the Redlands Oil Company, which had a decided influence on my efforts to secure money to continue drilling.

The Scottish Oil Company abandoned its well on section 20 because we believed that there was no oil there. At this time I would not advise anybody to drill on that portion of the hill. I do not know anything about the rest of it. We spent nearly \$73,000 in our development work in the Elk Hills.

We kept a log of this well showing the formations through which the drill passed.

During the time I was in the Elk Hills I have seen bands of 500 to 3,000 sheep in there in the late spring. I know that the soil is capable of growing agricultural products if water is put on it, because I have seen watermelons and tomatoes growing in the garden near John Lang's house on Section 28 of township 30-23.

### CROSS-EXAMINATION of

T. M. STORKE.

I think we began drilling on the 9th of November, 1910. At a depth of about 850 feet we struck some gas and at 1400 feet we struck a very heavy flow of gas. My recollection is that we were not bothered with gas at all until we got down to twelve or fourteen hundred feet. At that time the well was full of [1633] water and the gas threw the water out all over the derrick but this lasted just a few minutes as it was just a pocket of gas we struck. We never struck any showing of oil at all. I was there every minute of the time while the drilling was going on during the day and am certain that there was no oil struck. There were some false impressions as to there being oil in the formation due to the fact that one of the drillers threw a half pint of oil into the well to fool one of the teamsters. We struck considerable gas at 2600 feet and after that gas would break through every now and then, but the driller told me that he thought it all came from 2600 feet. It is impossible for me to say whether it came from that point or lower down.

None of our money was spent in purchasing a right to the land as we got this under a contract from the locators under which we were to drill wells upon a contingent interest.

We were guided very largely in our drilling operations by what Mr. King told us and we abandoned the well upon his advice. I do not think that this advice was given by him on account of the present litigation.

I am not posing as an oil operator or expert. Before I went over to take charge of the property in the Elk Hills I had no practical experience in the oil business except that in 1900 I had some experience in the McKittrick field and the North Midway. The operations of the Scottish Oil Company were not directed by any geologist. A man by the name of F. J. Burns located our wells for us. I don't know anything about the geological formations underlying section 16, Township 30 South, Range 23 East, or underlying any section. Our well was started in November, 1910, subsequent to the withdrawal order of 1909 and 1910 so if we had discovered oil in commercial and paying quantities before we pulled our tools from the well we were uncertain as to the validity of any title we might acquire from the Government and our operations [1634] might have been, so far as I know, a trespass upon the public domain.

I would not give 18 cents an acre for the whole of the Elk Hills for any purpose. If it had water on it it would be very valuable. I do not know what it is

worth for grazing purposes as I have never investigated, but I have seen sheep there in the late spring.

We got an artesian flow of water in our well and others might get the same thing. I believe there are many places in the Elk Hills that are capable of being used for agriculture if they had water.

The only oil that the drillers said that they got out of this well was what they put in themselves. There is naturally some that shows from the tool joints themselves, since as the pipes were being taken in and out the tool joints were greased, and went down into the hole and some of this grease found its way out.

#### REDIRECT EXAMINATION

of

T. M. STORKE.

The company offered a bonus to the drillers and to everyone there if oil was struck that would warrant us in putting down another well.

In addition to the tools that the Associated Oil Company lent us they also let us have 4050 feet of special drill pipe, without which it would have been necessary for us to have discontinued operations. We did not think that we were justified in buying this pipe and Mr. King volunteered to let us have it and finally did so after obtaining permission from his company. If we had not obtained this pipe we would have abandoned the well at a depth of 3500 feet. Mr. King told us that he wanted [1635] to know what we had in our well as his company thought that the formation was practically the same in our well as it was

in section 22 where they were drilling. His attitude toward us was very encouraging and during the last month or two of our operations he did everything to assist us to continue.

MRS. C. R. THOMPSON, a witness called and sworn on behalf of the defendants, testified as follows:

#### DIRECT EXAMINATION.

In July, 1912, I was living in San Mateo, California, and met Mr. Thomas Thomas J. Griffin for the first time there.

I went to Mr. Lewers' office in last July; I spoke about having met Mr. Griffin and went up there in regard to knowing Mr. Griffin; I had heard Mr. Thompson speak of him so much that I understood he was up there on some oil matters,—something to that effect.

Mr. Lewers took me over and asked me at the map if that was the section that Mr. Griffin was to testify to, and I told him that I did not know whether it was section 30-23 or not, and Mr. Lewers asked me to inquire of Mr. Griffin if that was the section; I met Mr. Griffin at the Goodfriend Hotel and asked him about the section; Mr. Griffin gave me the information about the land that was the section of land, and gave me some figures describing the land; it was something like 30-23, and I then returned to Mr. Lewers' office and told him.

Mr. Griffin had mentioned the fact that he was a witness for the Government when I met him at San Mateo; I cannot remember all the conversation that

took place; Mr. Thompson was present at the time; we had a general conversation in regard to the land which Mr. Griffin was subpoenaed up here for by the Government. Griffin told me that he was a Government witness and was going to testify; [1636] I remember that he mentioned the Elk Hills.

I do not remember the time of day when I first met Mr. Griffin; possibly in the afternoon. I was called up on the telephone, got up and dressed, and met Mr. Thompson and was introduced to Mr. Griffin; we went for a walk and stopped at the depot at San Mateo and the case was mentioned in a casual way.

#### CROSS EXAMINATION

of

MRS. C. R. THOMPSON.

When I am asked if Mr. Thomas J. Griffin ever sent me to Mr. Lewers' office to talk with him about his (Griffin's) evidence would be in this case, my answer is, absolutely not. That is the absolute truth and nothing but the truth. When I went to Mr. Griffin to find out about the numbers of the sections of land, Mr. Griffin did not know that I had been to Mr. Lewers' office.

C. R. THOMPSON, a witness called and sworn on behalf of the defendants, testified as follows:

#### DIRECT EXAMINATION.

I have known Mr. Griffin for four or five years, and first met him in Los Angeles; I remember Mr. Griffin being in San Francisco in July, 1912, for the purpose of testifying as a witness in this case for the

VOL. IV.

# TRANSCRIPT OF RECORD

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SUPREME COURT OF THE UNITED STATES

Original Filed **1911**

**173**

THE UNITED STATES OF AMERICA, APPELLANT

VS.

THE SOUTHERN PACIFIC COMPANY ET AL.

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FILED AUGUST 2, 1911

(28871)

Government; I visited him at the Goodfriend Hotel in San Francisco, and he told me that he was a witness for the Government.

I went down to San Mateo with Griffin in the evening on the street car; when we reached San Mateo I telephoned Miss Hattie Clapp, now Mrs. Thompson; I met her at 418 South D. street, San Mateo, and introduced Griffin to her. Mr. Griffin, Miss Clapp and myself were in the depot at San Mateo for some time that [1637] evening, and he told her in my presence that he was a witness in this case.

B. T. DYER, a witness called and sworn on behalf of the defendants, testified as follows:

#### DIRECT EXAMINATION.

I am now living in San Francisco. Up to three months ago I was living in Bakersfield. I am the Field Manager for the Central Petroleum Company, which has an office in San Francisco. This company is operating in the Coalinga, Midway, Bellridge, Lost Hills, Maricopa, Santa Maria and Los Angeles fields. I am in charge of its operations in all of these except the Los Angeles field. This company is operating quite extensively and at present is running twenty-seven drilling rigs and has about 150 producing wells situated in these various fields.

I have been Field Manager of this company since it consolidated with the Esperanza Oil Company about a year ago. I held the same position with that company since about two years ago. I have been engaged in the oil business nearly six years and my

experience in that line has been confined to California. Prior to that time I was a miner in Alaska and Nevada.

I am acquainted with the Elk Hills and went in there first about four years ago, about a year before the rush into that territory occurred. My recollection is that this rush was in 1910. I went in there to see what they claimed was a seepage. I do not remember the township and range but this supposed seepage was about half way between Buena Vista Lake and McKittrick and was east of the wells later drilled by the Associated Oil [1638] Company in those hills. I went to this place with Mr. McReynolds, Julius Fried and a geologist by the name of Ochsner. We got some of the material from this supposed seepage and tested it and Mr. Ochsner reported to me that there was absolutely no oil in it and that it was vegetable matter.

I made no locations in the Elk Hills at that time and not until a considerable period later. Both Julius Fried and Mr. McReynolds were in the oil business and I do not think that they made any locations. My first locations there were made about the time of the first withdrawal order which was made on September 27, 1909. There were some locators in there prior to that time who wanted some financial assistance and they came to my associate, Mr. Leland, and myself. We went in with them on their locations and then made other locations ourselves. At that time I was not connected with the Esparanza or General Petroleum Oil Company.

We made these locations just as everybody else did, as a strictly speculative matter. We felt that if anybody should get a well there that we would go on with our work and would benefit by the other discovery. Everybody was going in. We followed along like a lot of sheep. Our locations were made during this rush.

After we made these locations we put up derricks and did other preliminary work costing us in all \$40,000. Our locations were in sections 7, 8, 9 and 10 of township 31-24. Soon after we arranged with the Elk Hills Oil Company, which was really the Balfour-Guthrie Company, to drill part of this ground for a half interest and that company spent about \$230,000 in drilling on this property. Other work was done on other portions of this land in that vicinity by the Hart Oil Company, Greene & Hutchinson and a man by the name of Carman. I don't remember the name of his company. Under their contracts with us these [1639] companies made written reports to Mr. Leland and myself and from these I know that the various companies I have mentioned spent in development work on these locations a total of \$400,000.

I don't know what Mr. Carmen is doing in that territory now but I know that the other three companies are not operating.

The Esparanza Company had some land in there and I recommended to them that they abandon their property. I made this recommendation owing to the fact that our own development in there and that of our neighbors had not shown any oil. I was in touch

with the other operations going on in these Hills and therefore knew the results of other work there.

I was in the Elk Hills last about four or five months ago. At that time there was nothing going on there at all that I saw but I didn't get up as far as the Associated Oil Company's camp at that time. When I went in there with Mr. Fried and Mr. McReynolds there was no development work going on anywhere in the Hills for oil but I think there had been some trenches dug for gypsum. As I stated, this was about two years before the rush into the Elk Hills.

I still have my interest in these claims in the Elk Hills and have been unable to dispose of it although I have endeavored to do so. I really do not consider that it is an asset. I would not advise anyone to invest money in the Elk Hills at the present time with the hope of finding oil, because I would not want to see them lose their money.

Oil men who are actively engaged in the business do not, at this time, consider the Elk Hills to be oil land.

I have had experience in sinking wells that were located by geological experts and have depended upon them to some extent but not entirely. The General Petroleum Company now has two geologists in its employ. Mr. A. E. Preston, one of these [1640] geologists who is a college man, and who was employed as an expert geologist, has recently begun dressing tools for us in the field because he stated that he wanted to learn the oil business. I think he is doing the right thing. I know of instances where men who

were considered to be expert geologists have predicted the discovery of oil in different places at given depths and where the development following their advice has failed to reveal any oil although the wells had gone much deeper than originally planned. I also know of one instance in the Coalinga field where a large production of oil was obtained in the flats away from the Hills contrary to the advice not only of the geologists but of many oil men.

With the appliances that are now available a well may be drilled as an economical proposition to a depth of from 4,000 to 5,000 feet provided you have the best of luck. This might have been done five years ago but the risk would have been much greater than it is now because the material and appliances have improved. The primary difficulty in sinking to a great depth is the parting of the casing in the well owing to its extreme weight. A string of casing hanging from the top to a depth of 4500 to 5,000 feet is pretty heavy and tends to pull out the collars and to strip the threads. In sinking wells to that depth it is necessary to reduce the size of the casing as you go down. The number of times this becomes necessary depends of course on the character of the formation. The smallest ultimate diameter of pipe now being commonly used in the field is 3 inches although I have heard of special pipe smaller than that. This reduction in the diameter of the pipe as you go down naturally lessens the possible production of the well and makes it much more difficult to keep the well in shape after it is drilled. If anything goes wrong

in the well the small diameter of this casing makes it very difficult to do repair work. [1641]

### CROSS-EXAMINATION

of

B. T. DYER.

Before I went into the oil business I was engaged in mining in Alaska and also in the hardware and trading business there.

I came to Coalinga five or six years ago. After I arrived there I started to get acquainted with the oil situation particularly with reference to land and that was my first experience in connection with the oil business. I later went to Bakersfield in the Kern River field and then to the Midway field. I can fix the time of going to Midway as being several months before the withdrawal order of September, 1909. While in the Midway I drilled a well in section 14 of the same township in which the town of Taft is situated. I did not do the drilling. I had charge of it. This well was not put down on the advice of any geologist. I put it down on my own advice without consulting a geologist with reference to the determination of the location of that hole, and afterwards sold the property.

I have always figured that a geologist has his place in advising the location of wells, although I do not depend entirely upon their advice but usually take the precaution of getting information from everyone who knows anything about the matter.

When I first went into the Elk Hills to look after

the supposed seepage I did not know that Mr. Och-sner was going with us, but we thought he would be able to give us some advice. We took a sample of the seepage. This material was black. I do not think it was an oil sand and I do not think that I have ever seen an out-cropping of an oil formation anywhere in the Elk Hills, although this looked like what you would call a seepage from an oil sand. Mr. Och-sner reported that this material had [1642] nothing to do with oil.

We burned some of this material while we were in the hills and tried to get an odor. The sample was then taken and tested with chloroform. I did not make this test myself, however.

I heard a report in the field that the Associated Oil Company had a well in section 30 of township 30-24 that was making four hundred barrels and although I visited the property while they were drilling I never saw any production. As soon as I got the report about this well I went out there to see it. I would regard a well of that kind as indicating oil territory. I would call that particular land there oil territory. At the time I went there they were down very deep and supposed to be in the oil sand. I remained there about half an hour but the drillers did not tell me how deep they were and I did not expect them to give me any definite information on the subject although I heard at that time that they were in the oil sand. The well must have been put on the pump or was supposed to be flowing because I got the

report in town that it was making five hundred barrels and I went right over there.

I do not think that the lands involved in this suit can be called oil land because I do not believe that oil can be obtained within a practicable working depth.

I am not able to say whether I have been up on each of the sections involved in this suit but I might have walked over them several times. I have only a general knowledge concerning them.

The examination I made of section 15 in Township 30 South, Range 23 East, was very slight. I don't think that I ever was on that particular section. It was a bird's eye view with me all the way through. I made a telescope examination from a long distance. I made the same examination with reference to sections 17, 19, 21, 23, 25, 27, 33 and 35 in Township 30 South, Range 23 [1643] East. I can't tell you on what sections, township and range the oil seepage which I visited with Mr. Fried and Mr. McReynolds and the geologist was located. I do not want it understood that I have any specific knowledge with reference to any of the lands that I have described. My knowledge is just general from having walked over the hills several times.

The only well I know of that was 5,000 feet deep five years ago was a well in the Santa Maria field.

There was no oil struck in the wells of the Elk Hills Oil Company in the Elk Hills but as I recollect it there was a slight showing of gas. One of these wells in section 7 of township 31-24 went to a depth of 3600

feet and possibly I observed this formation of gas in the log of this well.

When we made our locations in the Elk Hills and did our work we did not feel that our title was invalid because of the withdrawal order and were assured that the order was not valid.

It was shortly after the first order of withdrawal that we hustled lumber onto the lands we had located for the purpose of having it appear that we had commenced operations in order to avoid the effect of that order of withdrawal. Although we spent \$40,000 on our locations this money was spent entirely in the erection of rigs as we never did any drilling. I think that the Associated Oil Company maintained a corps of geologists and that company is regarded as a large oil company in the oil fields of California. I understand that that company has a contest before the Land Office of the United States at Visalia seeking by every power to get title to several sections of land immediately interspersed with those to which my attention has been called. I believe that they have a contest against the applicants for patent by the gypsum and Fuller's earth locators. As I recollect it the Associated are attempting to maintain their title to these lands on the ground that they are essentially petroleum lands. [1644] I received reports from different companies, to wit: the Elk Hill Company, the Hart concern, the Green and Hutchinson and the Carmen. These reports were handed into me monthly and they showed the expenditure of \$400,000. I wrote to these companies to find out what the cost of these

wells was and how much money they expended in the Elk Hills on different pieces and I sent it to Tom O'Donnell who was in Washington protesting against the order of withdrawal of July 2, 1910, so that he could use it for the purpose of influencing Congress respecting the order of withdrawal of July 2, 1910. These reports of these expenses, I do not think, included over head and office expenses.

### REDIRECT EXAMINATION

of

B. T. DYER.

The only way in which oil men attempt to accurately determine whether land actually contains oil is by drilling. Oil men customarily based their determination of whether a territory contains oil or not before land has been drilled by walking over the surface. I did not base my conclusions concerning the Elk Hills merely upon such examinations as I made of their surface but was largely influenced by the development which has taken place there.

When I heard the rumor concerning this Associated well producing 400 barrels I went over there but I didn't see that oil. It is not at all unusual to get rumors of that kind and find when you run them down that very few of them materialize.

The executive withdrawal order to which Mr. Mills has referred had nothing to do with our conclusion that the Elk Hills were not oil lands. It was the probable withdrawal by a higher authority of all the oil from the hills that affected our conclusion. [1645]

CHARLES T. BURKS, a witness called and sworn on behalf of the defendants, testified as follows:

#### DIRECT EXAMINATION.

I live in Oakland, California, and have lived there for 22 years. I have been engaged in the oil business in California in the Midway field since the spring of 1900, and was connected with the Bay City Oil Company which drilled on section 22, T. 32-23. When I first went there we located about 1920 acres.

It took us some time to get our material to start in drilling as we had had to make roads and to find places to get water, but it was probably in July, 1900, before we started drilling. In March, 1901, we struck the first oil at a depth of a little less than 500 feet.

This was the first well to produce oil in that territory. The nearest wells to us while we were boring were at McKittrick and at Sunset. After we had started our well, there was a well started on section 2, six or seven miles northwest of where I was drilling and another was started by E. J. Bost on section 23 of the same township where my well was situated. Oil was struck in this well after the time we found oil in our well. There had been no other discoveries there in the meantime.

The well I have referred to in section 2 was drilled by a company the name of which I do not remember. My recollection is that it was drilled to a depth of about 1100 feet but no oil was struck, so far as I know. It was six or seven miles northwest of my well.

I remained there continuously after we started this well until the latter part of the summer of 1902. During this time I was familiar with the drilling going on in that country. It was within the immediate vicinity of our camp, directly east of us and on section 8 to the north and west of us, and the Oregon Midway Company was drilling in section 4 of the same [1646] township, and that was about all of the drilling that was going on at that time in the Midway.

Between that and McKittrick the only drilling was in this well on section 2, that I have referred to, to the northwest of us, and section 8 Southeast of 2. There were some wells at McKittrick which had been drilled before we went into the field near the town, and development was beginning to extend two or three miles northwest of McKittrick at that time.

Southeast of the Midway toward Sunset there was no drilling going on at that time until you reached Sunset, with the exception of one well that was started on section 30 south of our well, but I do not know of any oil being discovered in that well.

I was in touch with the other oil operators at that time on the West Side and knew of the range of hills now called the Elk Hills, lying to the north of the Midway. We did not consider them to be oil land at that time. I do not call to mind any intimation or feeling that these hills were really in the oil belt. We always thought that the oil lay up next to the foothills of the Temblor or main range of hills between McKittrick and Sunset.

During this time I was on the westerly side of the

Elk Hills a number of times but I do not think I ever went to the north side or east side of them. I looked for indications of oil on the west side but never found any.

After I left the Midway field in 1902, I returned there in 1907 to Sec. 22 in the Midway, where I had started drilling originally. At that time no particular change had taken place in the location of the development in that vicinity, but soon after that more drilling started and extended along over 25 Hill beyond, and three more wells were started on section 22 where my well was. [1647]

In 1907, the tendency was still to keep near the foot of the hills.

I do not know of any work going on in the Elk Hills at that time and in 1907 we did not think that there was any oil over there. I remained there nearly two years at that time, and during that period I do not know of anybody who considered the Elk Hills to be oil land.

I left that country before 1910, but in 1908 there were some indications of people beginning to locate land all over the country. I have not returned to the fields since 1908 and am not familiar with the present conditions in the Elk Hills. I do not remember any definite conversation with any one concerning the Elk Hills but we often talked in a general way with regard to all of that country. Oil men talked about localities of different wells or of places where people were making locations. In all of these general con-

versations I never heard any practical oil man discuss the Elk Hills as even possible oil territory.

### CROSS-EXAMINATION

of

CHARLES T. BURKS.

By Mr. Mills:

Q. You went into the Midway in the year 1900?

A. 1900, yes sir.

Q. And you stayed there until sometime in 1902?

Is that right?

A. Yes sir.

Q. And brought in a well there on Section 22?

A. Yes sir.

Q. Of 32 - 23?

A. 32 -23. [1648]

Q. Now, you say the nearest well at that date was the McKittrick wells and the wells at the Sunset district, excepting a well on Section 8, in 31 - 22, would not that be, of Section 2 of 31 - 22?

A. I think it was 31 -22. I know it was six or seven miles north and west of our camp.

Q. Yes; a little better than seven or eight miles, isn't it?

A. On a direct line I should judge it was about six or seven miles.

Q. And a well on Section 23 of the same township that you were in?

A. Yes sir; right near by us.

Q. Now, the nearest well to the southeast was at Sunset?

A. Yes sir.

Q. That was on the date that you left the Midway field?

A. That is the date I went in the field and began boring.

Q. I am speaking of the time you left the field. What was there in 1902 when you left the field?

A. 1902?

Q. Yes.

A. There was this well of ours on 22, and a second well I put down on 22; and on the northwest quarter of 22 there was another well; then the Boust well on 22—I mean 23; then over on Section 25, or 25 Hill, there was one, two or three wells that had been started. They were not completed.

Q. Is that all that you recall now of 1902?

A. And I think there was another well started on, I think it is the southwest corner of Section — or, rather, it is about two miles, probably, from our camp, west and a little north. I think it was the Internos. I think on Section 24, [1649] if I call to mind, there was another well had been started.

Q. What township?

A. That is in 32 -23, right near 25 Hill. In fact, it is part of the same locality. That is about all I call to mind now.

Q. Yes. Now, during the time you were down there drilling that well, you were over near the Elk Hills, you say, on the west end of them?

A. Yes sir.

Q. Was that on your road going over to Bakersfield at that time?

A. Sometimes I went the north road, that is, going north of the lake.

Q. That is, going around the Buena Vista Hills and down the Elkhorn Valley and out the West Side?

A. Yes.

Q. Now, was that the occasions you speak of going in there to the West Side?

A. No sir. I have gone in there on special trips.

Q. Yes. And you say you were looking for indications?

A. Indications, yes.

Q. You mean indications for oil?

A. To see if there was anything.

Q. Now, I say, do you mean indications for oil?

A. Yes sir.

Q. What do you regard as a good and conclusive indication of oil, Mr. Burks?

A. Well, it is pretty hard to make that definite. I would want to see a pretty good ledge of dry sand.

Q. Yes.

A. And that is about really the only good conditions I would go on.

Q. A ledge of dry sand? [1650]

A. A good ledge of dry sand.

Q. Well, suppose I would go out here and find you a nice ledge of dry sand near this golf course. Would you regard that as sufficient evidence of petroleum lands to make an investment?

A. I don't think so.

Q. Well, isn't there anything else you would want besides a nice dry ledge of sand?

A. Yes; I would want a general character and indication of the country.

Q. Would you look for any oil seepages or any indications of waste of oil at all?

A. Yes; that would be still a better indication.

Q. You would regard that as a little better than the dry ledge?

A. In connection with the sand.

Q. There were some oil seepages, were there not, along to the west and north on the east flank of the Temblor Range from your property on 22, that is, along the flank of the range back of you to the west?

A. What do you refer to as the Temblor Range?

Q. I mean the mountains to the west of where you were, the main range.

A. Yes. Yes, there were very few, though, even along there.

Q. Did you ever see these oil seepages?

A. Some of them.

Q. And did you regard those as good indications of oil?

A. Yes; they were indications.

Q. And did you place your well down on Section 2, where the formation dips off into the flat from the main range of mountains, because of those oil seepages?

A. We did, in that direction of the valley, in locating the well. [1651]

Q You had reference, then, to that indication of oil?

A Yes.

Q Known as the oil seepage?

A Well, it was not an oil seepage. We had no oil seepage there. It was a ledge of dry sand.

Q Did it show any discoloration made by oil?

A Yes, sir; it showed dark colors.

Q Showed as though it had been a former waste, a natural waste of oil in former times?

A That was the indication.

Q And that was the reason you located your well off there the east of that?

A Yes sir.

Q And you found oil?

A Yes sir.

Q And fulfilled your expectation?

A Yes sir.

Most usually oil men generally, at that date, in making locations for wells, referred to such conspicuous physical evidences as dry ledges of sand which were discolored by waste of oil. I remember that there was a little showing in the gulch to the South and East of where we had our wells located in 22 cropping out near the corner of sections 23 and 24, and 25 and 26 at a common corner. There was also a little bit of a showing to the West of us on the range. There was also some cropping at that time on section 35, Township 31 South, Range 22 East, which would be about five or six miles along the range Northwest of us. These croppings strung along from

one section to another in a general way off towards McKittrick and along the Eastern flank of the range and they were pretty well known to the oil men, who were wise to their business there at that time. I never saw the cropping of oil sand or the gas blow out in section 32 in the Western part of the Elk Hills as that occurred after I left the field but I read a good deal [1652] about it in the newspapers as there was considerable publicity about it and it was generally discussed by oil men. This was only a couple of years ago. I never attempted to make any detailed examination of the Elk Hills. When I came back to the Midway and the West side fields in 1907 there had been a little work going on on 25 Hill and on the Spellacy claims they had perhaps put down a couple of new wells. That is all that I can call to mind that had gone on there in five years. When I left in 1902 I don't suppose there were over eight or ten wells from McKittrick to Sunset and when I left in 1907 there were but two or three new wells. Of course I am only testifying from my memory. I never went over the country and counted the wells. I am only depending on rather a vague recollection. I went over into the Elk Hills in 1907 to see what I could discover. I went in the same casual way that I did in 1902. I didn't take a geologist with me. I just merely went for my own satisfaction. I don't pretend to any scientific or geological information of the oil country on the West side. I was in there as an operator to sink a well and to get information from the best sources I could. I have never consulted any

geologist about the Elk Hills. I possibly would look for some geological advice before I would invest any money in the Elk Hills. Of course if the appearance, to my mind, was satisfactory, I might not seek information from a geologist and if the indications suited my mind I would spend money to the extent of fifty or sixty thousand dollars in unproven territory without any geological advice. I never read any geological bulletin on that West side field before I went there. In fact, I don't recall that I ever read one.

#### RE-DIRECT EXAMINATION

of

CHARLES T. BURKS.

The well I sunk on section 22, Township 32 South, Range [1653] 23 East, was not located on the advice of a geologist and we struck oil there. I had no occasion when I went back in 1907 to count the number of wells in that territory. I did not go back for the specific purpose of making any general observation of the number of wells there and what information I now give is just my recollection of it.

L. E. DOAN, a witness called and sworn on behalf of the defendants, testified as follows:

#### DIRECT EXAMINATION.

I live in Oakland, California, and have lived there for the last three years. I am engaged in the oil business and at the present time am engaged in acquiring oil land for the North American Oil Consolidated Company. My duties take me into almost all of the

oil fields in the State. This company at present has about 1,000 acres in the Midway field upon which they have 110 wells with a production of between five and six thousand barrels a day. I have been connected with this company for about six months, and prior to that time was operating on my own account, since 1900. I operated in the Kern River, Sunset, Maricopa, Midway, Coalinga and Bellridge fields. My first wells were in the Kern River field.

I have a general idea of the Elk Hills. I went there first, I think, in 1901 or 1902, when I was operating at Sunset. At that time I made a number of trips through the Midway, Buena Vista and Elk Hills, just looking over the country in general. In 1901 or 1902, I made a trip there in behalf of Mr. Winfield Davis of San Francisco, who was then drilling in the Kern River field. A proposition had been made to him to drill a well in the Elk Hills by N. C. Farnum, who was at that time associated with Jewett & Blodget. They had located a number of sections of land in that country and Mr. Farnum made me a proposition [1654] that if we would drill a well there they would give us two sections of land. I first went over there to investigate the country myself and afterwards took Mr. Davis and Mr. George Cameron and some others into the Elk Hills to see a seepage that Mr. Farnum had told us about. He said that there was a cropping of oil sand there that was reeking with oil. We had not been able to find it so he came along to show us. We examined the sand which

he pointed out and came to the conclusion that it was a vegetable stain of some kind. There was a discoloration in the ground there but we could not find evidence of any seepage of oil. He told us that this was the place he had referred to as reeking with oil.

At that time we spent about a day looking over different places in the vicinity and on the strength of what we had seen before and on what we observed that day we rejected Mr. Farnum's proposition because we concluded that there were not sufficient indications to warrant the expense of drilling a well. I had already concluded that if there was any oil in that land it would be very deep. The general dip in that country is to the southeast. The croppings are all back on the west side of the Midway field and the farther you get towards the valley the deeper the territory, and I therefore concluded that the Elk Hills would be very deep.

I have been in that country more or less ever since the time I went in there and in general way have kept in touch with all of the development there. Prior to 1905, in the McKittrick district proper, there was a great deal of development going on but outside of that district there was very little. The McKittrick development was just back of the town and followed the outcroppings to the northwest. There was very little development south of or east of the town.

Down toward Sunset there was not a great deal of [1655] development. Quite a number of wells had started in the Midway district right along the out-

crop of the eastern slope of the Temblor Range. They extended a very little way into the flat.

I was familiar with the general impression amongst oil men in that country at that time as to where the oil was. The general belief was that it lay close to the outcrop along the Temblor Range along the west side of the valley. The general impression as to the Elk Hills at that time was that there was no oil there or if there was any it was very deep, and with the methods of drilling in vogue at that time nobody thought it would be profitable to go out into that country at all. Very few wells had been drilled at that time in that field deeper than twelve or thirteen hundred feet. Some had gone deeper but at a great expense and everybody thought that a 1200 foot well was very deep.

There was very little development in the Elk Hills until after the strike in the Honolulu well on Sec. 10 in the Buena Vista Hills along about February 1910. As the result of this, there was quite an excitement in the Buena Vista Hills and lands were located all over the valley east of the Buena Vista Hills and into the Elk Hills. At that time I went into the Elk Hills as I had an opportunity of locating a lot of land in there with a number of friends of mine, but I turned it down as I did not think it worth while.

I always figured it was too deep to be profitable, and there were so many chances in the oil business anyhow, so many hazards, that I thought it was too hazardous to attempt it.

I knew that there was a lot of locating going on over there, and a great many people had put up rigs and started to drill. A great many rigs were sent in there. Millions of dollars have been spent in there, I suppose, and a great many wells drilled down to quite a great depth. But I never have heard of anybody getting any oil to amount to anything. [1656]

I do not think that the Elk Hills is oil territory in the sense that it can be worked at a profit. A well 4,000 feet deep is not a profitable venture for any man unless it turns out to be a tremendously big well. By a big well I mean a gusher with an enormous depth of sand, and all that sort of thing, plenty of reserve to keep the well alive for a long time. Even the wells in the Buena Vista Hills, in the Midway, that came in at a thousand barrels a day, it is questionable in my mind whether they will ever pay. The life of a well is short, the gas pressure is soon exhausted and the production drops off so fast, and where a man has to pay a big price for the land, it is questionable in my mind whether it is profitable, whether they will ever get their money out of it.

### CROSS-EXAMINATION

of

L. E. DOAN.

I went to Bakersfield first in 1900 or 1901. I am an attorney at law and started in to practice there, at that time forming a partnership with a firm of attorneys who represented the Southern Pacific Company. I continued with this firm until about 1903, but I had

very little to do with the actual practice of law, devoting my attention almost entirely to the oil business.

I have had no experience in the actual work of drilling of wells but have superintended that operation and have been interested in companies that drilled wells in different places. I don't claim to be a geologist in any sense of the word and my connection with the oil business has mostly been in the buying and selling of oil lands.

The places Farnum took us to in the Elk Hills was down in a canyon on the east side of the hills where there was a black discoloration. He said that you could squeeze oil out with your hand. There was an excavation in this deposit and I attempted to [1657] squeeze some of the oil out of the material but did not succeed. We looked at it and tested it but could not get a sign of oil.

The area that was discolored on the side of the hill, I suppose, would cover an acre. I know for a couple of miles South of McKittrick there are fine out-croppings. They lie between the Temblor range and the Elk Hills. I don't know how far these outcroppings run between the Elk Hills as I never really traced them all the way down as I have always depended more on what I have been told by men that were familiar with the district than on my own examination. I have consulted a good many oil men in regard to these things and this is true with reference to the opinion I have expressed with reference to the Elk

Hills. I have been over the Buena Vista Hills many times and I find that there are more outcroppings there than there are in the Elk Hills. I never found any of these outcroppings between the Buena Vista Hills and the Temblor range and I never found any of these outcroppings in the flat although I know that some have been found. We are on an outcropping on the West side in sections 26, 22, 16 and 15 in Township 30 South, Range 23 East. It extends three miles practically right on the outcrop there. I am familiar with sections 14 and 12 in the same township and 6 and 23 in township 31 South, Range 23 East. None of these outcroppings are on section 12 which is on the Western flank of the Buena Vista Hills, or in sections 14 or 32 in township 31 South, range 24 East but oil has been found in all of these sections. It was some years ago in the year 1902 that Mr. Farnum took us to this outcropping or seepage. I never visited the properties of the Associated Oil Company in the Elk Hills. I know where the wells are located but on none of the trips that I took through there was I ever on any of these properties. I know they discovered a little oil there though I don't know on what section and I never attempted to go out there and make any investigation on the ground. I do not [1658] know how far that seepage that Farnum showed us was from the Associated wells. My idea of the Associated wells is that they are on the Western slope of the Elk Hills up towards the North end. I do not think that they are as near

the crest as this seepage that Farnum showed me. I think they were West of that seepage. That is my idea, of course I don't know. As I said, I have been in the Elk Hills only to pass through there. I passed over the Elk Hills two or three times in going to Midway but I never have been there since the rigs were put up, since they started to drill there, and my investigations were all made prior to the putting up of any rigs or any drilling in the Elk Hills. That is a number of years ago, a way back in 1902, '3 or '4. As I stated, I would never advise persons to invest money in the Elk Hills with the intention of making it an oil property because of three reasons, to wit: the depth and the cost of the land and because I have consulted with well known oil men who are familiar with the Associated wells and they have advised me that they are not profitable. One of these men was Dr. E. A. Stark, geologist of the Standard Oil Company. I have also talked with Mr. Scribner, who is connected with the Associated Oil Company, but you can't get very much satisfaction out of him but the impression that I gathered from him was that he was not fully satisfied with the wells; didn't think that they had very much there. I consulted with Mr. Scribner because I wanted to find out about the Elk Hills with the intention, if they brought in a big well, I might be induced to go over there and if they had brought in a big gusher in the Elk Hills I certainly would have gone over there. I merely got the impression from Mr. Scribner that they did not have very much of a well, that they got a little showing that was

not satisfactory. That was merely an impression. I don't say that he said it in so many words but that is the impression I got from talking with him. He was always very closed mouthed about the business of the [1659] Associated Oil Company and in these discussions with him he never told me about the particular work that the Associated had been doing on these wells. He never told me that in one of the wells of the Elk Hills they had perforated the casing for a thousand feet and found oil sand for the whole depth. He did not tell me that one of their wells had been put on a pump and flowed from three hundred and fifty to five hundred barrels a day. I had heard all kinds of stories and I was trying to verify them and I came to the conclusion that they didn't have very much of a well there. I may be wrong about it but I gathered the impression that they had considerable sand in the Associated wells and but very little gas pressure and that it wouldn't be profitable to pump the wells at that depth. Mr. Scribner never told me that he did or he did not have a well over there producing two or three hundred barrels a day and I never went out there myself to find out.

L. B. McMURTRY, a witness called and sworn on behalf of the defendants, testified as follows:

#### DIRECT EXAMINATION.

I live in San Francisco and have an office in the Mills Building. I am now engaged in the oil and mining business and have been for about 13 years. At present I am connected with two oil companies. I

have been interested in the Midway field in Kern County and the San Benito field in San Benito County. I went to the Midway in September, 1900, and went first into sections 4, 5, 7, 8, 9, 10 and 14 of township 32-23. We were also interested in section 30 of township 32-24. Later I became interested in some land in township 31-23.

We drilled a well in section 30 of township 32-24 to a depth of about 1500 feet and struck oil. This was the first well we drilled in that territory and was the first oil struck in the Midway field. I know a well that was drilled by Charles T. Burks [1660] which was the first production well brought in in that field as ours never was a producer.

We also put wells down on Sections 4, 5, 7 and 8 which were started in 1900 but some of them were never finished owing to drilling difficulties.

At that time, with the exception of the Burks well, the nearest wells were at Sunset and McKittrick and there was nothing in between.

The general impression of people at that time was that there was no oil south of that little range of hills south of McKittrick and that there was nothing north of the range of hills coming in just north of Sunset and that the oil zone was along the main range on the west side of what you might call the Midway field.

As far as I know the Elk Hills were not considered to be oil lands at that time. I went into a portion of these hills about 1900 in company with I. T. Bell of Visalia to look at a lot of land that had been located

there by a man by the name of Brown who was superintendent for Miller & Lux at the old Headquarters ranch. As a result of our examination we did not consider it to be oil land.

In this trip we drove around by the Lake on the southeast side of the Elk Hills and then over the Miller & Lux headquarters ranch. The following day we went over a portion of the foothills and then drove back around on the other side of the Elk Hills.

From the time I went into the Midway in 1900 I have been back and forth quite frequently between the field and San Francisco. I remained in the field from the time I went there until October, 1903. During this time I was in touch with the general development that was going on in the West Side and as far as I know oil men in general did not consider the Elk Hills to be oil land during [1661] that time. I left in 1903 and did not return until 1906. I was in the field a portion of 1906 and 1907 and returned there again in September, 1908, and remained until about the end of 1910.

When I returned there in 1906 very little, if any, change had taken place in the extent of the territory that was drilled in the Midway over what had existed when I left in 1903. There had been some development on what is known as 25 Hill. Between the Midway and McKittrick I saw a derrick on section 11 of township 31-22 which I think belonged to the 1901 Oil Company. The development at McKittrick had begun further northwest along that line. There was no development, however, in the Elk Hills that I

know of and I never heard them referred to at that time as being oil land.

In the latter part of 1908 a rush began in the Elk Hills. I know this because I was there although I did not join in the rush because I did not consider that was oil land.

I do not think that the well drilled half a mile from another well will necessarily strike the same formation as the first well drilled. In the Midway field I have observed variation. For instance, wells in section 32 of township 31-23 that have been put down approximately the same depth on the eastern and western portions of the section have varied in production from 50 barrels a day on the West Side to 150 or 200 barrels a day or even 5,000 or 7,000 barrels a day on the eastern portion of the section, but I don't know of any well that has been perfectly dry that has been put down to the required depth in the immediate vicinity in the Midway and I do not know of any well in the Midway within a few miles of the place that I have been referring to, to wit: section 32, that was absolutely dry but I have known wells that did not produce enough to pay. [1662]

CROSS-EXAMINATION  
of

L. B. McMURTRY.

Before I went into the oil and mining business I was a railroad conductor on the Southern Pacific and later on the Northern Pacific Railroad. I was continuously in the railroad business from 1879 until

1890. I was a police officer in San Francisco from 1890 to 1895 at which time I went into the mining business in Humboldt County, Nevada. I had mining interests in various places in California later and finally went into the oil business in 1899.

At the time I went into the Elk Hills first my stock of information concerning the oil business was not very extensive. I probably stood in about the same position as any other oil man in California at that time. I had had the benefit of the advice of Mr. C. W. Fox who was a practical oil man and had gained his experience in the West Virginia and Pennsylvania fields and who I considered to be a good oil man. He had taken me through the San Benito field and had pointed out oil formations and indications and explained the different characters of sand and that sort of thing so I had some experience before I went into the Midway field and I also went over the Midway field with him.

In this trip into the Elk Hills I was looking for oil formations or an oil sand. I did not see very much of the Elk Hills as our trip was confined to the southeastern edge of the hills. We crossed the hills pretty well up to the Lake, however, on account of the depth of the canyons down near the Lake. I cannot tell you what sections in the Elk Hills we were in on that trip.

There are croppings extending from section 27 in Township 31 South, 22 East, through section 35 in the same township and through section 2 in township 32 South, 22 East, down into section [1663] 18 of 32-23 along the Easterly flank of the Temblor Range and

the dip of the formation is towards the valley generally and in my opinion in 1900 that would indicate that the land towards the valley was underlaid with the same formation and that if there was any persistency or uniformity in the formation you could calculate correctly the angle or dip in which it was plunging and you would be justified in sinking a well over in the valley and expect to reach that formation and you would expect to find it impregnated with oil. That was the belief I entertained in 1900 and we put in four strings of tools there at that time and so my opinion must have been good that it was an oil field. Besides, there were others who entertained that same opinion in 1900 who were successful in the discovery of oil. I never went over the Elk Hills enough to form an opinion. I have driven around there but I have never been over them with the exception of the time I stated and that trip, of course, was over only a small portion of the hills. Since that time I have never been in the Elk Hills at all and I have no definite information which would enlighten the court as to the character of the formation for mineral contents in the South half of the township known as 30 South, 23 East, and it is possible, so far as I know, that the lands known as sections 15, 17, 19, 21, 23, 25, 27, 29, 33 and 35 of Township 30 South, Range 23 East, which would be the South half of the township which I have referred to, are underlaid with petroleum deposits under each section. It is possible that where several wells are on the same section that the difference in production from the various wells

may be due to drilling troubles and the wells sanding up before being completed. When I speak of oil land I mean of land that will produce oil in paying quantities and when I speak of producing oil in paying quantities, that always depends on the condition. For instance, in some localities a well might pay that was producing but ten barrels a day and others wouldn't pay if producing less than a [1664] hundred. You have got to depend on circumstances surrounding the matter, such as transportation, the expenses of drilling and depth and the expenses of handling the well. I would expect a well to be at least a hundred barrels to be a paying well in some localities and ten barrels in others. Then the price of the oil is a determinative factor and it would not pay to sink a well anywhere in the Midway field if oil was down to a few cents. I remember in 1901 that oil was down to fifteen cents a barrel and there was no market and no transportation and the oil industry certainly fell off considerably at that time. So, whenever I use the term oil land in expressing an opinion upon any territory I use the term with reference to land which produces oil in paying quantities.

When an oil sand cropping is found we make calculations as to how deep it may be found at a certain distance from the outcrop and base these on the angle of the dip. These calculations are not accurate, however, from the fact that we cannot tell how far your formation is going to dip as it may get deeper or come up toward the surface. If we assume for the sake of the question that an oil sand is persistent for ten or

twenty miles in all directions and that it is laid down uniformly in extent and thickness and contains oil, I would expect to find oil by sinking a well to that formation anywhere in the field.

It has been demonstrated in section 32 of township 31-23 to which I referred on direct examination, that wells within half a mile of other wells in that section showed a great difference in the quantity of oil produced. This may have been due to drilling troubles but there are probably 16 wells in that section that are very small producers and at the same depth where oil has been found in other portions of the section the oil sand in these wells is apparently dry or shows a very little oil.

The wells drilled in the West Side field kept pretty close to the hills until 1908. [1665]

#### REDIRECT EXAMINATION of

L. B. McMURTRY.

I do not know of any place in the oil fields where there is a bed of sand of uniform depth or laid down and deposited in uniform thickness over an area of fifteen or twenty miles. When we began operations in 1900 and 1901 I would not have felt justified in going twelve or even five miles from the outcrop with the expectation of getting oil and I do not think that any of the oil men at that time would have done so.

At the present time I would hesitate to go that distance into an undeveloped territory. I might commence near the outcrop or within a reasonable distance of it and feel my way out gradually but I would

never go out that far to start in.

I do not think that the variation in the character of the wells on section 32 in the Midway of which I have spoken, has been due to drilling difficulties but on the contrary I think it has been due to the character of the sand itself. This variation is not shown by the surface formation.

Although it is possible that there is oil in the Elk Hills underneath the lands involved in this suit, I do not think it is probable. I do not think oil can be produced there in paying quantities.

L. W. KAY, a witness called and sworn on behalf of the defendants, testified as follows:

#### DIRECT EXAMINATION.

I live in San Anselmo, Marin County, California and have an office in the Mills Building in San Francisco. I am now engaged in the gold mining business in Calaveras County, California. [1666] I have been engaged in the oil business in which I started in the Midway field in 1900 when I was associated with Mr. McMurtry who has testified in this case.

I was a stockholder in the company that did this drilling in the Midway field and was its Field Superintendent. Prior to that time I had not had any experience in the oil business but had been mining since 1870. For a time I was sheriff of Tulare County to which position I was elected first in 1899. While I was sheriff I assisted in the capture of Sontag and Evans.

I remained constantly in the Midway field from the time I went there in 1900 until August or September,

1901, superintending the drilling operations of the Oregon-Midway Oil Company with which I was connected. I did not return there until 1908.

While I was in the Midway from 1900 to the Fall of 1901 I was at McKittrick, Maricopa and Bakersfield and was familiar with the drilling that was going on in the West Side field. I went to McKittrick every few days.

At that time the general impression amongst the oil men with whom I came in contact was that the oil territory ran through the valley from McKittrick to Sunset along the edge of the main range. The property claimed by our company was up on the hillside, with the north half only of one of the sections that we claimed on the flat.

When we went there there were no wells at all outside of these at Sunset and McKittrick. The development at McKittrick was west and southwest of the town.

I was not in the Elk Hills in 1900 although I probably went across their southeast end a time or two. In 1901 I made a trip in there with two other men hunting for oil land. We drove over there and stayed two nights, going to the south side of the ridge of the hills but passing up on to the ridge several times. We found no indications of oil there, however, and made no locations at that time nor have I made any since and I have never [1667] been back in the hills.

I returned to the Midway in 1908 and remained there until about a year ago. I did not make any attempt to locate any land in the Elk Hills after I re-

turned there in 1908 because I did not think that it was oil land.

### CROSS-EXAMINATION

of

E. W. KAY.

When I went into the Elk Hills in 1901 I was looking for croppings of oil sand. At that time that probably would have been a conclusive indication to me of the oil character of the land as that was all I knew about it. I do not pretend to say that I knew very much about the Elk Hills as a result of the brief examination I made at that time.

I had an opportunity in 1901 to locate a great deal of land in the Midway flat in places where there are now productive wells, but I did not make any locations because I did not want them at that time.

### REDIRECT EXAMINATION

of

E. W. KAY.

It was not the general impression amongst oil men in Midway flats at that time that oil would be found where oil has been discovered since. It was a quite general report at that time that the Midway flat had been condemned by geologists and that was common talk amongst the oil men. [1668]

O. E. HOTCHKISS, a witness called and sworn on behalf of the defendants, testified as follows:

### DIRECT EXAMINATION.

I live in Oakland, California, where I have lived for

26 years. I am a native of Ohio and a graduate of Oberlin College of the class of 1882.

I have been in the West Side oil fields and went there first in October, 1899, at which time I went to McKittrick for the purpose of examining the field generally and particularly to look at a piece of supposed oil land that had been offered for sale. It was a portion of Sec. 22, T. 30-22, close to McKittrick. I was there two days and made as thorough examination of the field as I could in that short time. At that time the development was to the west and northwest of the railroad and was west and northwest of the town.

I returned to this place early in January, 1900, and took two surveyors with me to locate a piece of land in the Elk Hills that I understood was open to location. I was acting for myself and a number of associates who had formed a company known as the Yosemite Oil Company.

We went on the north slope of the hills of the summit on T. 30-23 and possibly the west part of 30-24. I ran over a considerable portion of the hills there up as far as the summit of the northern slope. I did not go on the southern slope at that time. We found that the land that we went into to examine had already been taken and I spent some time going up and down the range of hills east and west to see if there was any other land that was open but everything seemed to be under location. I remember that there was a bunch of locators that had taken a great many sections

which were numbered serially and the numbers ran up to as much as 150 claims. These locations were made by the Jewett & Blodget crowd. It was our purpose to locate this [1669] land presumably as oil land. There was a great deal of excitement at that time and nobody knew exactly what was oil land or what was not oil land, but everybody was trying to get a location somewhere and we joined the throng. We did not intend at that time to put up rigs and drill. We simply thought that we would look the land over and if later it developed into oil land, it would be worth something, and if it did not we would not be out very much.

Well, as I said, there was a great deal of excitement at that time and everybody was rushing to get locations, and there was very little really definite knowledge as to the oil situation. There were a great many mushroom experts who could tell you right where oil was and where it was not, but there were very few who really knew very much about it, as I found by talking to them, and nobody knew where oil would be likely to be, but everybody, as I said, was trying to get a location somewhere and they located land in every direction, in some cases miles beyond where there was any possibility, you might say, of getting oil.

In my trip into the Elk Hills in 1900, I did not find any indications of oil. There was nothing on the surface that showed any signs. On my return to Bakersfield, I looked into the records again and found that

there was some land open to location in T. 30-22. I therefore returned to McKittrick a few days later and went over the west end of the range of hills in T. 30-22 and the western portion of T. 30-23 pretty thoroughly and located a number of claims. That was in January, 1900, about the middle of the month. I then reported to my associates. [1670]

The report was that there was probably no oil there but that there might be; it was simply a long shot chance, and I had taken up the land simply because there was nothing else to be done. Everything seemed to be taken within miles of the oil field and these were the only locations I could find open and I had taken them on that long shot chance; there might be oil there but my judgment was that there was none.

My opinions at that time as to the locations held by Jewett & Blodget was just the same as it was concerning our own locations. There was no material difference between the two places. There were no surface indications on the land that I located. The formation was practically the same as it was in the Jewett & Blodget claims. The only reason that the land that I took up was not located before I got it was because it was supposed that everything in T.30-22 had been taken, and I observed by personal examination of the records that this was not the fact.

I did not find on any of my visits into the Elk Hills at that time the supposed seepage or gas blowout in Sec. 32, of T. 30-24, and I do not think that I was as far south as that.

I located part of Sec. 22 of T. 30-22 and we acquired the other part that had already been located, as there were some surface indications of asphaltum on the land. We fenced a section, put a cabin on it and began work digging asphaltum. For a time we thought we had a good thing in the way of asphaltum. We shipped a carload of it and took out another carload that we did not ship. Some of it was of the most excellent character, so pure that it would melt and flow in the sun. But as we worked further along into the deposit we found that it was nothing but a surface deposit—nothing but float that had come down from above. It was also found along the banks of the creek on either side. It soon ran out. It was a little surface deposit or float that had come down either in the form of oil floating down the creek and lodging [1671] and gradually accumulating on the banks, or more likely melted and half liquid asphaltum mixed with oil that had run down from the hills to the west in the direction of McKittrick.

We did not work on any other section in the vicinity because there was no indications on any of them that would justify doing so. We did put up derricks to hold our claims just as other people did at that time. I think we put up a derrick on Sec. 14 of T. 30-22. All we found on that section was a few narrow seams of asphaltum where the railroad cuts through the hill. It was evidently float because it lay with the stratification and the stratification was merely the wash of the creek as it came down. There

was no oil sand or asphaltum in place anywhere in Sec. 14 or 22 of that township. Since 1900, for several years I went down to that country three or four times a year but in recent years I did not go more than once a year and have not been there at all for the last two years.

From 1900 on, the development proceeded in this range of hills to the west of McKittrick and to the west of the railroad. To the east of McKittrick there is a little narrow valley lying between the McKittrick range of hills and the range called the Elk line, but at that time all of the development was on the west side of that little valley and none whatever was going on in the Elk Hills. I mean by this there was no attempt to do any bona fide development work. When I went into the Elk Hills in 1900 the section corners in 30-23 were marked by stakes and most of them had apparently been put up recently and were apparently private survey stakes, although I am not certain of this.

I went to Bakersfield prior to my trip to McKittrick on that occasion. Bakersfield was the central town for the various oil districts in which the oil excitement then existed. The town was very much congested with oil men, locators and speculators. [1672] The hotels were so crowded it was very difficult to get rooms at all, and in the evening one would have to elbow his way in the lobby as it was fairly packed. This excitement continued up to the time of the discovery of oil in the Beaumont district in Texas. This drew a great many people from Kern County

and the excitement died down, along in 1902 or 1903. After that excitement died down, everything was very flat there for some years. Oil went down to twelve and fourteen cents a barrel and there was hardly any profit in producing oil, even of you had a well already drilled. Development was checked and the boom broke. There was no speculation because there was no longer a basis for it and the great bulk of the locations were allowed to lapse. I kept in touch with the general situation there and some time afterwards, when the price of oil had begun to rise, another period of excitement developed and an oil boom started about 1909. [1673]

HARRY J. HART, a witness called and sworn on behalf of the defendants, testified as follows:

#### DIRECT EXAMINATION

My home is in San Francisco and I have lived here for about 31 years. I am connected with a number of oil companies. I am president of the Hart Oil Company which operated in the Elk Hills, and am also president of the Sea Side Oil Company, in Santa Barbara County and a director of the Federal Oil Company in Santa Maria district. I have been connected with oil companies actually engaged in the business for ten or twelve years and first went into this business in the Santa Maria district. I am not a driller but I have had charge of drilling operations in the field.

I went into the West Side fields in Kern County in February, 1910. In February or March of that year

the Hart Oil Company put up five derricks in Sections 11 and 13 of T. 31-23 in the Elk Hills and started drilling. We drilled a well in each of these sections. The well in Section 13 was drilled to a depth of 3700 feet and the one in Sec. 11 to a depth of 2,000 feet. Both of these were drilled with rotary rigs.

I was there frequently during the drilling operations of these wells and remained there some times as long as two or three weeks at a time, without returning to San Francisco. My principal reason for locating these wells at that place was because I thought it was shallow territory. I followed the directions or rather reports contained in United States Geological Survey Bulletin No. 406, written by Ralph Arnold and Harry Johnson. From this bulletin I got the impression that the depth where we located would be between 1,000 or 1600 feet, and possibly a little deeper on the lower edges of the hills. We were drilling half way between the top of the hills and the lower part, so I thought we would have to drill to 1400 or 1600 feet. I know a number of my friends who went in there in the Elk [1674] Hills hoping for shallow territory. I cannot say positively that they were influenced by this bulletin but I think they were.

We abandoned the well on Sec. 13 after going to the depth I have stated and finding no oil, and we have also abandoned the other well and the entire camp and moved all our material, leaving nothing whatever, not even the bunk house.

We found no indications in either of these wells.

In the well on Sec. 13, we found a stratum of salt water between 3400 and 3600 feet. We abandoned the property, principally because we found no indications of oil and because it had proved to be very deep territory.

I would not advise anyone to sink a well in that territory. While we were drilling there I was around the field considerably and kept in touch with the drilling. There were a number of reports that oil had been found by the Associated Oil Company in the Elk Hills but I never saw any there in commercial quantities, although there was an appearance of oil. I did not go to their well on Sec. 30, T. 30-24. From my experience in drilling in that territory and from all the information I received concerning other work there, I would not advise anybody to invest or drill in the Elk Hills, as I am thoroughly convinced that there is no oil there in paying quantities.

In drilling we used all the modern appliances so as to detect the kind of formation we were going through, and this was carefully watched by those engaged in the drilling, and we never discovered anything that would lead us to believe that there was oil there.

I have a well in the Santa Maria district 5100 feet, which was started on February 22, 1910. This did not produce oil, however, but I have a 4600 foot well on the same territory which came in as a flowing well but we later had to pump it. We [1675] have had very serious trouble in pumping this because of the

pumping rods or "sucker" rods, as they are called, breaking frequently. We purchased the very best rods we could obtain on the market, yet had the same difficulty. In my opinion it is a very difficult proposition to pump a well satisfactorily at that depth, and I regard it as impracticable to attempt to do so.

CROSS-EXAMINATION

OF

HARRY J. HART

By Mr. Mills:

Q. Mr. Hart, your well on Section 13 was on which quarter-section of that section?

A. Northeast, my recollection is. I am pretty near certain about that.

Q. That is right on the flank of the hill, isn't it?

A. Yes sir.

Q. Where the formation dips off into the valley?

A. Yes sir.

Q. And the one on 11 was on what subdivision?

A. Southwest quarter, I think.

Q. That also is right on the flank of the hill, isn't it, where the formation dips off into the valley?

A. Well, I should say that is a little closer up to the hill.

Q. It was after the dip or plunge starts toward the valley?

A. Yes sir.

Q. Did you take any geologic advice at the time you located those wells?

A. None other than—

Q. None other than reading this Bulletin 406?

[1676]

A. That is all.

Q. As I understand you, you had no regularly employed geologist, or even one which you had employed for that particular purpose of locating the wells in 11 and 13 which you have testified about?

A. No sir.

Q. And a great many wells that went in at that time, during the excitement of 1910, about the time that you started there, were located hurriedly, were they not, by parties who desired to begin development work?

A. I should say not.

Q. I am speaking of other parties.

A. Well, I am speaking of our particular instance. I should say not.

Q. Have you ever consulted geologists about those wells on 11 and 13?

A. No sir.

Q. You have not ascertained, then, have you, Mr. Hart, and don't know yourself—You don't pretend to any geological knowledge, do you?

A. No sir, I am no geologist.

Q. And you were the superintendent, had supervision of the work, of drilling the wells, you say?

A. I was the president. We had a superintendent.

Q. Well, you were in general supervision, were you not?

A. Yes sir.

Q. And you didn't pursue your investigations with a geologist to determine that your wells had been erroneously located where the dip or plunge leads off into the valley and that you would necessarily get into very deep territory by locating your wells at that section, that particular point, did you?

A. I would like to answer that in my own way.

[1677]

Q. Well, can you answer that by yes or no?

A. I would like to have the question read. (Question repeated by the Special Examiner.) I assumed my wells were located properly; therefore made no further investigation.

Q. Did you locate them yourself?

A. No sir.

Q. They were not located by any geologist?

A. Yes sir; they were.

Q. They were?

A. Yes sir.

Q. What geologist?

A. I just can't call his name. It is "Mac" something. I know him very well but can't just call his name.

Q. By Mr. Lewers—McMullen?

A. No sir. I know him perfectly well but just can't this minute call his name.

Q. By Mr. Mills—Did you employ him for the purpose of locating the wells?

A. No sir.

Q. Was that a gratuitous bit of information he gave, or was he paid for it?

A. No; the wells were located by this gentleman for Mr. W. L. Lelande, who I took the property from.

Q. Did you see him locate the wells?

A. They were located when I took them.

Q. So that whatever you know about it, then, is not of your own personal knowledge, but from hearsay?

A. From Mr. Lelande's statement to me.

Q. Well, that is necessarily hearsay, isn't it?

Mr. Lewers—What is the use of arguing it? I object.

Mr. Mills—I am not arguing. Mr. Hart and I are getting along all right. [1678]

Q. Now, the only well you visited, as I understand your testimony, in the Elk Hills, beside the two misadventures which you had, on the south flank, was the well in Section 26? Is that correct?

A. Yes sir.

Q. And that was a well that was put down by the Associated Oil Company?

A. Yes sir.

Q. On what quarter-section of Section 26, in 30-23, was that well located?

A. I don't remember that.

Q. And did you spend any great amount of time at that well when you went over there?

A. Well, I should say I was around there an hour or two at a time. Made a number of visits there.

Q. Now, what month or months were you over to the well in Section 26, and with reference to the year also?

A. I don't recollect that, sir, just when.

Q. Well, do you remember the year that you were over there?

A. I should say 1911, to the best of my recollection.

Q. 1911. Do you know whether it was in the spring or fall or winter or summer?

A. Well, the only way I can answer that is that I went over there continuously during our drilling and we started to drill in 1910 and kept it up until 1911. I should rather say it was the fall of 1910.

Q. Fall of 1910. And that was the last visit that you made was it, to that well?

A. No. That was not. I was there—As I say, we were drilling—I want to fix the dates, if I can. We started to drill in 910. Well, I have not got my dates here, but my recollection is up to 1911 we drilled. We drilled about a year. [1679]

Q. Do you remember what month you quit drilling, that is, what month you quit, yourself, the actual supervision of the drilling on your wells?

A. April 11, assuming that I am correct that we started in 1910. That is the dates I have got fixed in my mind.

Q. Now, up to the last visit you made to the well on Section 26 in 30-23, the Associated Oil Company had made no substantial discovery of oil? Is that correct?

A. That is my opinion.

Q. Well, I didn't ask for your opinion. I ask you if you know.

A. No; none whatever that I saw.

Q. That you saw?

A. Yes. None whatever, I should say.

Q. They didn't discover any oil while you were there at the well, is what you mean, is it?

A. Yes sir.

Q. That is it. Now, do you know that on Section 26, in the early part of 1911—January or February, 1911,—or thereabouts, the Associated Oil Company struck oil and that the oil was occasionally spurting up out of the hole?

A. I don't know that, sir.

Q. So that if that happened it was after your visit there, was it?

A. That I don't know.

Q. What is that?

A. That I don't know. I don't know that it did happen.

Q. You don't know whether it happened or not, do you?

A. No sir.

Q. And you are not prepared to testify now that it didn't happen?

A. No sir. [1680]

Q. Now, you made no visit, did you, to the well on Section 24 in the same township?

A. No sir.

Q. In which the Associated Oil Company made a discovery of oil?

A. No sir.

Q. And you made no visit to Section 30 of 30-24?

A. No sir.

Q. Where the Associated have some drilling operation?

A. No sir.

Q. Now, you went into the south flank of the Elk Hills because you had an idea from reading Bulletin 406 that the depth would be anywhere from a thousand to sixteen hundred feet, or, in other words, it would be shallow territory?

A. Yes sir.

Q. That was one of the reasons that induced you to go into the hills, was it not?

A. Yes sir.

Q. And if you had known that the territory was deep territory and that the prediction made by Mr. Arnold in his bulletin, as you have read it, was erroneous in respect of depth, and that you would have to go three thousand to four thousand feet to get oil, would you have gone in there?

A. No sir

Q. You were somewhat disappointed, I take it, by finding that the territory was deeper than you expected, were you not?

A. I was disappointed at not finding oil at any depth after going such a great depth.

Q. Well, I think you stopped your well, didn't you say, on Section 11, at 2000 feet?

A. No. That was on account of an accident.

Q. Oh, you quit on account of an accident on Section 11? [1681]

A. Yes sir.

Q. And would you have gone further but for the accident, on Section 11?

A. Yes sir.

Q. Which one of those wells was first in time? The one on 11 or the one on 13?

A. The first in which?

Q. First in time? Which was drilled first?

A. I think we started them both about together, within a day or two of each other.

Q. Yes. And when the well on Section 11 reaching a depth of 2000 feet met with difficulties through an accident, you stopped drilling on that well?

A. And put our entire energies on the other well.

Q. How far apart in distance is one well from the other?

A. I should say about a mile.

Q. Now, you stopped your well on Section 13 at thirty-six hundred or thirty-seven hundred feet?

A. Somewhere about that.

Q. You don't know whether there is oil below the depth where you stopped or not, do you?

A. I don't know that. I had no method of know that.

Q. And you know of no means, outside of geologic

deduction, of ascertaining whether oil exists below the depth at which you stopped the drill or not?

A. Only by the use of the drill. That would be the only way.

Q. Yes; and when you cease using the drill, then your source of information stops, doesn't it?

A. Yes sir.

Q. As to the territory below the drill.

A. We stopped because we got into salt water.

[1682]

Q. Well, answer my question, Mr. Hart. Now, you don't know whether oil exists below the place where the drill stopped or not, do you?

A. Absolutely not.

Q. No. So that that was merely conjecture on your part because you found no oil before you got down to 3700 feet. Is that right?

A. Well, I can't say it was a matter of conjecture. We went as far as we wanted to go. It wouldn't be a matter of conjecture with me, sir. We just didn't want to go further.

Q. It was a matter of conjecture as to what exists below the place where the drill stops, isn't it, Mr. Hart?

A. Well, yes; perhaps you are correct in that.

Q. Yes. You stated that you used a rotary rig on these two wells.

A. Yes sir.

Q. And in using that rig, it is a part of the process to cement up the walls of the well by pumping mud or cement into the—

A. Mud.

Q. Mud into the pipe?

A. Yes.

Q. So that it comes up on the outside of the casing? Is that right?

A. Well, I am not prepared to say it comes to the outside of the casing. No; we had no casing in there. We would mud the walls up to keep them firm.

Q. You had no casing at all in there?

A. Only the drill casing. The mud itself walls it up.

Q. Walls up the outside of the drill casing, doesn't it?

A. Yes sir.

Q. And it would have a tendency, would it not, in coming [1683] up on the outside of the drill casing, to mask the formation through which it passed?

A. Not in my opinion, sir.

Q. And you know of instances, don't you, in the Midway or West Side fields, where a well has been drilled by the use of a rotary and abandoned because it showed no signs of oil, and that later, after washing out and using standard tools, they have brought in good wells?

A. I don't know of any such an instance.

Q. Do you know of a well on Section 30, 32-23, that was drilled with a rotary rig, abandoned, and afterwards found to be a good well?

A. I don't know that, sir.

Q. Do you know of a couple of wells in Kern River

field which were abandoned some years ago as unproductive, and that later, on test being made, they found the hole full of oil?

A. No sir.

Q. You didn't get over to Section 30 in 30-24. Do you know that that well of the Associated Oil Company was brought in in the summer of 1911 and was put on the gauge by an employee of the Associated Oil Company and showed 406 barrels of high gravity oil for two days?

A. I don't know that, sir.

Q. You don't know that. Would you regard a well which would produce 406 barrels, on the gauge, for two days, while they allowed it to run, of a gravity, say, of 28 degrees, as an indication of oil territory?

A. Yes sir.

Q. Would you regard it as a good indication of an oil territory?

A. Yes sir.

Q. So that if it should prove to be a fact, Mr. Hart, that [1684] the Associated Oil Company struck oil on Section 30 of 30-24, which corners on the very section which you visited, and produced a well there which showed on the gauge for two days, while they ran it, 406 barrels a day of 28-gravity oil, it would have a tendency to modify your opinion about the Elk Hills, wouldn't it?

A. I should consider that a good well.

Q. Now, did you ever hear that the Associated Oil Company in that well perforated their casing for an

enormous distance, some seven or eight hundred feet, that after they struck the oil-sand and put the casing down below the point at which the oil-sand was struck they perforated it for seven or eight hundred feet for the purpose of relieving the enormous gas pressure, to keep that well from becoming a gusher? Did you ever hear that?

A. No sir.

Mr. Lewers—Nobody else did, except Mr. Mills.

Q. By Mr. Mills—And did you hear also that the Associated Oil Company capped that well to prevent general knowledge of the conditions there in the field, and, to relieve the well, left a one-inch pipe outlet so that the gas would not blow the top of the well off?

A. No sir.

Mr. Lewers—I object to this line of examination, on the ground that it is not cross examination. Counsel is attempting to testify into the record, and I move that the entire testimony given by counsel for the government be stricken from the record as purely hearsay, conjectural, and unfounded upon anything in the record.

Q. By Mr. Mills—What is the price of 28-gravity oil now, Mr. Hart?

A. I am not certain; but I think about sixty-five cents. [1685]

Q. What is the price of oil as low as 15-gravity?

A. About forty cents at the wells.

Q. So that there is a substantial difference in the price of the two oils?

A. Yes sir.

Q. And the higher the gravity the more valuable the oil?

A. Yes sir.

Q. The well which will produce at that price 28-gravity oil, forty barrels a day, is worth as much as a well which will produce sixty barrels at 15-gravity?

A. I would have to figure that out.

Q. Well, that is your estimate of it, generally, isn't it?

Mr. Lewers—That is objected to. It is a mere matter of calculation.

A. If that will make the difference in the price I stated, if that figures out the price I have stated.

Q. By Mr. Mills—Now, there is evidence in this case, in the form of a letter written by the superintendent or general manager of the Associated Oil Company, that a well in the Elk Mills producing a hundred barrels a day is a paying well. Is that your judgment?

Mr. Lewers—What letter do you refer to?

Mr. Mills—The letter of Mr. Porter.

Mr. Lewers—Does he make any such statement in that letter?

Mr. Mills—Yes sir.

Mr. Lewers—I have no recollection of it. I object, as no foundation for the question; further, not cross-examination of any matter brought out in the examination of this witness.

Q. By Mr. Mills—This was a letter which was in-

troduced in the record as Plaintiff's Exhibit N. It is a letter which was written by W. S. Porter. Do you know that gentleman?[1686]

A. Yes sir.

Q. What position did he occupy with the Associated Oil Company?

A. I think he was president and general manager.

Mr. Lewers—Vice-president and general manager, wasn't it?

The Witness—Vice-president and general manager.

Q. By Mr. Mills—He would be a person who, in your judgment, would know something about what a paying well would be?

A. Yes sir.

Q. Now, in his attempt, for the Associated Oil Company, to get rid of some conflicting titles in the Elk Hills, Mr. Porter wrote this letter:—

Mr. Lewers—I move that that introductory statement, "In an attempt to get rid of some conflicting titles," be stricken out as merely testimony of counsel. I object to argumentative statements.

Q. By Mr. Mills—Associated Oil Company. General Offices, Wells Fargo Building, San Francisco, July 25, 1911. Captain William McKittrick, Hotel Potter, Santa Barbara, California. Dear Sir. I have advised Mr. Scribner that on your return to San Francisco, which will be next week sometime. You will either call upon him or communicate with him and arrange a meeting at which the conflicting titles

of the Elk Hills properties may be discussed. Mr. Scribner will negotiate with you along the lines we discussed and agree to keep one string of tools running on each section so long as oil is discovered in paying quantities, a well producing a hundred barrels a day being considered a paying well."

Mr. Lewers—For the purpose of that contract.

Q. By Mr. Mills—Now, Mr. Hart, do you agree with Mr. Porter that a well in the Elk Hills which will produce a hundred barrels a day is a paying well? [1687]

A. I do not, sir?

Q. Do not. The fact, if it were known to be a fact to you, that the Associated Oil Company brought in the well which I have described, on Section 30, would, if you had known it, have modified your opinion as to the value of the Elk Hills as oil territory, would it not?

A. Yes sir. You refer to a well of four hundred barrels, I assume?

Q. Yes; four hundred and six barrels.

A. Yes sir.

Q. And remember, it was running, under gas pressure, on the gauge, that amount at that time.

A. Yes.

Mr. Lewers—For two days.

Mr. Mills—For two days. Yes.

Q. Now, Mr. Hart, don't you know that oil has been found below salt water?

A. Yes sir.

Q. So that the fact that you struck salt water in that well on Section 13 would not be conclusive evidence to your mind that no oil would exist below that stratum of water?

A. No sir.

Q. Do you pretend to any scientific or geological knowledge of the formation of the south half of Township 30-23?

A. No sir.

Q. Do you pretend to say that your experience, and the results obtained by your operations on Section 11 and 13 in 31-23, have any bearing whatever in ascertaining or determining the mineral or non-mineral character of Sections 15, 17, 19, 21, 22, 25, 27, 29, 33 and 35 of 30-23?

A. I would like to look at the map.

Q. Right here, sir. It is these red sections here. Your [1688] well is one here and one here. These lands lay up here.

A. Now, will you repeat the question? (Previous question read by Special Examiner.) No sir.

Q. And as to those specific sections which I have described to you, you have no knowledge, whatever, have you, of whether they contain petroleum or not?

A. No sir.

Mr. Lewers—May I inquire, Mr. Mills, Does anybody else?

Mr. Mills—Yes sir.

Mr. Lewers—Who? Government geologists?

Mr. Mills—The Southern Pacific geologists know

about it, and when you bring them on the stand we will get some interesting information from them.

Mr. Lewers—I think you will; there is no doubt about that. But you won't get that.

Mr. Mills—Those are the boys who had the keenness, in 1900, to know what was good petroleum land; and those geologists not only selected those lands for the railroad company, but grabbed the even sections, also, later, for themselves.

Now, you have been acquainted, somewhat, with the character of the surface there in the immediate vicinity of where you were operating, Mr. Hart. From what you know of the land on which you placed your wells and what you could see around the hills there, would you say that the surface of the ground is level or broken?

A. Well, do you mean by the word "level", flat?

Q. Yes. What is the general character of it? Is it broken up into hills or is it largely flat surface?

A. It is broken up into hills.

Q. The soil is somewhat porous and sandy at the surface, isn't it?

A. Yes sir.[1689]

Q. And will not easily hold water content, because of its porosity? I am speaking now of the surface.

A. Yes sir. Well, it absorbs the water very—

Q. Very rapidly, doesn't it?

A. The top surface, if that is what you refer to. Yes sir.

Q. The lands have no value, to your certain knowl-

edge, for agricultural or farming purposes, have they?

A. I should say they would be valuable lands if they could get water there.

Q. For agricultural purposes?

A. Yes sir.

Q. Do you think you could put a farm on the hills there?

A. If you had water.

Q. Whereabouts would you locate a good farm there, Mr. Hart?

A. Section 13.

Q. Where you were?

A. Yes sir. I should think that would make wonderful farming lands.

Q. Is there any other place?

A. Well, that particularly I had in mind, because we had the experience there. For instance, water seeping around there and feed dropping from the barn showed a wonderful growth there.

Q. Yes, that is to say, if you can keep the water on the land there you could grow something?

A. Yes sir.

Q. That Section 13 is more or less in the flat, isn't it, with reference to the main body of the hills?

A. I think the lower part of it is in the flat, but where we were is in the uplift. I could tell by the map better.

Q. Now, what season of the year does rain fall there, if [1690] there is any rain?

A. Yes; there is quite some considerable rain.

Q. What season of the year is it?

A. Well, about December until March, I should say. We had some heavy rains there in February, I recollect, at one time.

Q. And after that time is there any rain in the rest of the year?

A. We had some rain during the summer there once or twice, quite big storms. Didn't last very long, but there was quite a heavy rain there.

Q. Well, the hills are barren generally, aren't they, most of the year, for general vegetation?

A. No, I should say those hills for six months in the year were quite green.

Q. For six months in the year?

A. Starting in along about late in the fall until pretty well along in the spring. There were sheep there grazing.

Q. For six months there are sheep grazing there?

A. I didn't time it, but I should say for five or six months.

Q. Isn't a fact sheep are driven through those hills there for two or three or four months after the early spring rains?

A. I have seen them there much longer than that, sir.

Q. And that for the rest of the year there is not a living thing could live there on anything they could find in those hills in the way of vegetation?

A. Well, I don't think it is quite that bad, sir. I

think I saw sheep there grazing—well, I don't remember just what months, but there were some sheep there—well, I would not say all the year round, but quite some considerable time.

Q. Would you regard land which can be rented for grazing [1691] purposes at four cents an acre a year as good grazing land?

A. Well, I am not in the sheep business. I can't answer that intelligently.

Q. No. You don't regard that as good agricultural land in its present condition, do you?

A. Have to have water.

Q. Yes; and there is no water there, is there?

A. There is a big creek there, for instance.

Q. Where is that? In the Elkhorn Valley?

A. No; it runs right below our Section 13.

Q. That is what we have termed the Elkhorn Valley. It is in the draw between the Buena Vista Hills and the Elk Hills.

A. Yes sir.

Q. There is no creek in the hills, is there, that you know of—in the Elk Hills, I mean.

A. Well, there is an opening there as we went from Section 11 up to 13, in between there, that had considerable water in it sometimes, near to that land.

Q. Well, it is not a creek, is it? It is only when it rains that there is water there?

A. That is all, sir.

Q. It is a dry gully most of the year, isn't it? Isn't that right?

A. Yes sir.

Q. Now, you don't know of any water in the Elk Hills, do you—natural water in the Elk Hills—except when it rains?

A. Well, I know, just below the surface, of considerable water, if that is what you mean, at not a very great depth.

Q. What is it? Surface water?

A. On Section 11, at about a thousand feet, they found quite a flow of water.

Q. At a thousand feet? [1692]

A. Yes sir.

Q. Well, would you call that "just below the surface"?

A. Then I was going on to say that on our 13, at 357 feet, we struck quite a water strata.

Q. Well, do you think that you could pump water there from those strata that you have mentioned and successfully and economically do farming on those lands? Is that what you mean?

A. I believe I could on that Section 11.

Q. On Section 11?

A. Yes sir.

Q. Down in the flat?

A. No sir; I mean up in the hills.

Q. In the hills?

A. Yes sir. On the northeast quarter, I should think it was, the National Crude, I think is the name of the company, got into water about a thousand or twelve hundred feet; and we discussed it then and

thought it would make—it was good drining water, good commercial water, you might say, in very great quantity; and that is as far as they went.

I am not interested in any way with the defendants in this case. I was not subpoenaed as a witness, but came as a matter of courtesy.

RE-DIRECT EXAMINATION  
OF  
HARRY J. HART.

The cost of our operations in those two sections was about \$125,000 for actual operating expenses. I would not consider a well four thousand feet deep that showed on the gauge 406 barrels for two days, and after that fell off, down to as low as 20 barrels a day, a commercial proposition.

From my experience in the oil business I do not think any man can tell what is underneath the ground in the way of oil without sinking a well. [1693]

FRED KIMBLE, a witness called and sworn on behalf of the Defendants, testified as follows:

DIRECT EXAMINATION.

I live at San Mateo. Have been interested in the oil business for about 12 years, first at Coalinga. After drilling a couple of holes there, I went to McKittrick, probably 5 years ago. I am interested at Bellridge.

I was in McKittrick 8 or 9 years ago a very short time, not over 4 or 5 days, with E. J. Miley. At that time, we made a trip as far as Sunset looking for possible oil land, to secure a lease to operate on, drill on.

I made numerous enquiries of people acquainted

with the country as to where there might be an opportunity of securing lands that would be favorable for oil.

We stopped over night at the old Chanslor & Canfield Midway property and from there went down to Sunset the second night. We followed along the base of those hills all the way down. There was no one working in the hills.

We saw the Elk Hills on that first trip. I looked over them. I did not go into the Elk Hills; no one called my attention to them or recommended it as possible oil land or anything of that kind.

I returned about 5 years ago and drilled at the north end of McKittrick. That was about a year after the earthquake in San Francisco. There was no work going on in the Elk Hills in the way of drilling at that time as far as I know.

I think I was at North Midway at the time the Honolulu well came in in the Buena Vista Hills.

I never heard the Elk Hills, among oil men, considered possible oil territory, prospectively speaking, until after that Honolulu well came in, and then that started a good many prospectors to thinking that the Elk Hills might be oil land, be- [1694] ing apparently similarly situated.

I went into the Elk Hills at that time. I made a slight examination. I went in there across over the north end of the hills, on the top of the hills, about where I presume the Scottish afterwards drilled. And then of course with a machine I travelled along the

south and west flank down through the country just at the base of the hills on the south and west of them. I have made an examination only across the north end of the hills. I started from a little below the Belgian property which is just a little south-east of the McKittrick field, and then walked from there across through some little elevations and cuts and washes until finally I got up on top of the Elk Hills which is kind of the northerly end of them—I mean, the north-westerly end.

I did not make any locations in the Elk Hills or attempt to.

I am familiar with the impression amongst oil men as to the character of the Elk Hills. That impression is that it is not oil land, commercially speaking. We consider that it has been demonstrated not to be oil land by reason of the large proportion of failures and the depth they have gone without success.

#### CROSS-EXAMINATION OF FRED KIMBLE.

If I remember right, three of us spent about \$12,000 in drilling a couple of holes near Coalinga in the early days, possibly more than that. We went down about 1800 feet but didn't go deep enough.

Al Garbeson and myself drilled a well in the south-east corner of 16-19-15 and got a little oil, but not enough to pay. We drilled the hole only about 900 feet.

The next well I drilled was in the north end of the [1695] McKittrick field where we got a little oil, but not in commercial quantities.

The next hole I put down was in section 33, 28-20 about 4 years ago. We got oil but hardly enough, about a 20-barrel well which I abandoned.

The next well I drilled was I think in section 21, 31-22, North Midway where we got oil in commercial quantities, about 3 years ago. We sold the property and I don't know what's being done with it now. It is about a 50-barrel well, I think.

The next well I was interested in—I really just started one to hold the ground and afterwards sold the property—was on the south-west corner of 15-29-21, on the flat just south of the Bellridge field. That was about a year ago. I only went 800 feet and sold the property to the General Petroleum Company. It was a dry hole when I left it, and so far as I know, it is a dry hole to-day.

That was the extent of my drilling. I did drill a well in section 2, 29-21 for the General Petroleum Company on land that I had sold them. That was on the flat. We got oil but the well was not on a commercial basis as far as I know. It looked as though it would be a paying well if properly finished.

In spite of the dry holes, I have been ahead of the game. Of course, I have made it on land but not in drilling wells. In selecting oil lands, I have been successful; in drilling oil wells, I have been unsuccessful.

Mr. Chanslor, of the Associated Oil Company, is my

brother-in-law—married my sister. I presume he is heavily interested in the Associated Oil Company. I think he was president at one time. The Southern Pacific Company owns 51% of the capital stock of the Associated Oil Company and control it by stock ownership.

No one ever recommended the Elk Hills as oil land 8 or [1696] 9 years ago. None of us ever dreamed of looking out there at that time, as far as I can recollect, and we did not dream of looking at the Midway flat, either, at that time. That was, I guess, a little ahead of us then. I could, if I had had the foresight, have gone into the Midway flat and made a fortune, but I overlooked that the same as I did the Elk Hills. I am glad that I overlooked the Elk Hills. As to the Buena Vista Hills and the Elk Hills, if one were good the other looked somewhat similar and that made the people think that the Elk Hills might be good after oil had been discovered in the Buena Vista Hills. As to what oil indications the Buena Vista Hills had that the Elk Hills did not have, I will say that the Buena Vista Hills have what I call a blow-out or a blossom where it was forced up from below just south-east of the Honolulu No. 1 well that would indicate the possible presence of oil underneath. In my judgment I would call it a very good indication. I have visited that blow-out or cropping of sand in the Buena Vista Hills.

The contour of the Buena Vista Hills and the Elk Hills look alike. There is considerable similarity

in outward appearances and the only dissimilarity that I can now recall is the fact that the Buena Vista Hills has a gas blow-out and I didn't see one in the Elk Hills and never heard of there being any there.

I never saw a gas blow-out on section 32, 30-24 in Elk Hills. If I had seen a gas blow-out there, in that case I would think it would look encouraging until it had been proven otherwise; and based on successful drilling in the Buena Vista Hills, I would say that it would be so encouraging as to justify the expense of drilling in there.

At the time I was in the Elk Hills in 1910, the work there was just starting. There were no rigs up. I don't know what land I visited. I was just simply going over the hills as [1697] far as I could walk over them. I was not out there again after 1910 and don't know what has happened there since then except what has been told me by persons interested there.

Assuming that near this gas blow-out or oil sand cropping on section 31 of 30-24 in the Elk Hills, and adjoining the lands in controversy in this suit, a company had sunk a well to twenty-six or twenty-seven hundred feet and encountered a stratum of oil sand some 25 or 30 feet in thickness, and gone down for a distance in the neighborhood of a thousand feet beyond that, and that that well began to spout oil and was put on the guage and produced for at least two days at the rate of 406 barrels a day, I would certainly call that encouraging. Of course, to know what a

well would amount to, we would like too see it produce maybe for thirty days, or something like that, to see how it holds up. I have known wells that started off nearly that good and were afterwards abandoned.

RECROSS EXAMINATION  
OF  
FRED KIMBLE.

I cannot say in just what particular townships the wells in the Elk Hills over three thousand feet are located. I know along over the hills, there has been in the neighborhood of a dozen wells drilled, many of which went over 3000 feet in depth, down to over 4000 feet. The Scottish well drilled 4000 feet or a little over, but I can't say what townships the particular wells were located in [1698]

JOHN P. KERR, a witness called and sworn on behalf of the defendants, testified as follows:

DIRECT EXAMINATION

I live at Bakersfield, Kern County, and am and have been engaged in the oil business for about 15 years.

I began in the Coalinga field, went from there to the Kern fields. From the Kern fields I went out to the Midway fields in 1902.

From the time I entered the oil business, I have travelled from Alaska to Mexico in different fields, Wyoming, Utah, New Mexico and Texas.

I have done everything that is to be done on a lease, drilling, tooling, roustabout work.

In recent years I have had charge of the Land Department of the Chanslor-Canfield Company. It is my duty to report on all territories and to go to and buy, lease and operate prospective oil lands. I can't say how much territory I have selected for that company. I can say that I report on about all the lands they drill on. Lands I have selected are in the Midway, McKittrick, Bakersfield, Maricopa, Kern field and Alaska. By Bakersfield, I mean the Kern River field.

When I went into the west side in Kern County in 1900 or 1901, I went for the Chanslor-Canfield-Midway Oil Company for the purpose of drilling for oil. I selected everything they took in that field. On the west side, in examining the lands, I went down from the McKittrick field down through the Midway, down as far as what they call Section 25 Hill and through that Valley that runs between that and the Elk Hills. In getting ready to drill north of McKittrick, I went up through the hills there.

I went over to the Elk Hills. I have been there a number of times since 1901 and have been over pretty nearly all [1699] of it for the purpose of examining the lands to see whether I thought we wanted any of them or not for oil purposes. In 1901, I stayed out there about 7 months, on the slopes of the hills on the Midway side; and then I was over all the land and went from there across into the Elk Hills and through there; I didn't see anything that I thought we wanted to spend money on. I did not acquire or attempt to acquire any land there.

I made a report on the Elk Hills but would not say that it is of record anywhere. I don't think the Chanslor-Canfield Company ever kept my written reports. I will explain the way I made my reports in those times by saying that if I saw a piece of land that I thought was oil land, I had authority to immediately put a rig on it and drill on it and I was asked no questions about it. Everything was left to me. I came to the conclusion that the Elk Hills country was too much of a "wid cat" for us to tackle.

I have been in the Elk Hills since 1901. In 1902 I spent a good deal of time over all of that Elk Hills country and through there, in the Midway country. I had charge of the drilling and things at that time in the Midway that we were doing there and so I went over those hills, and I never saw anything that we wanted there and so I didn't pay much more attention to it. My travel didn't take me into the Elk Hills very much after that at all.

The Chanslor-Canfield Company had a rig on section 4 south of McKittrick and a rig on section 6 and one on section 8 and one on section 17 in 32-23, I think if I remember. I can't say positively as to the township.

At that time the Chanslor-Canfield operated in the Kern field, the Coalinga or Midway field and the McKittrick field. They were operating producing wells at that time. We got a rig up in section 1, 29-20 north-west of McKittrick. [1700]

From 1901 to 1905, I was most of the time in the

McKittrick field. I had my opinion as to where the oil was there. I thought the formation stood up too steep to ever reach far out into the valley that runs toward the Elk Hills, and I think that opinion was entertained by every oil man there.

I was in the west side fields after 1905 up to this time.

I have not been in the Elk Hills, except to cross through there on the roads that run to the Standard Oil Company there, in the last four or five years.

I was either in Bakersfield or McKittrick at the time the Honolulu gusher came in in section 10 in the Buena Vista Hills. After that gusher came in, I guess everybody thought that they could go into the Elk Hills and get hold of a piece of land that might be oil land or that they might have a chance to sell it to somebody who thought it was oil land. I didn't go into the Elk Hills myself at that time. I never got excited. I never thought it was oil territory. I believed it was too expensive to operate if it was oil territory. I thought it would be too deep. I did not think it was oil territory and I now think it is very doubtful as to whether it is or not.

#### CROSS-EXAMINATION OF

JOHN P. KERR.

The expression "wildcat" would mean that we are going into a new territory and we will use our own judgment whether we are going to get oil or not. It means new territory that has never been proven with

wells being drilled on each side of it, or something of that kind. I think that is the general understanding of the meaning of that term among oil men.

In 1901, I thought the oil horizon lay along the eastern flank of the Temblor Range. [1701]

The reason that I went into the Elk Hills to look over a location was that I had made a good deal of money out of locating land and selling my interest in it where there was never any oil. I didn't go into the Elk Hills with the intention of locating land that I didn't believe there was oil in for the purpose of roping somebody in. I went to the Elk Hills with the intention of looking. The natural conditions there, the Elk Hills being a structural uplift in the valley, with the known indications along the eastern flank of the main range, indicated to me that there might be an oil proposition there.

I have visited the Buena Vista Hills. That is an uplift of hills out in the valley off from the main range. I think the structural formation of the Buena Vista and the Elk Hills are very much alike in every general way that can be discerned by the eye. This fact, and the known outcroppings along the eastern flank of the main range, caused me to go to the Elk Hills and look at it as prospective or possible oil territory in 1901, and I think other oil men entertained that belief at that time.

I never saw an outcropping of sand or gas blow-out in Section 32, 30-24. I never had occasion to see it and never heard that there was a cropping of sand over there.

A distinct oil cropping of sand or a gas blow-out in the Elk Hills on Section 32, 30-24, taken in connection with its general structural fold and uplift and its relation to the line of outcropping along the eastern flank of the Temblor Range, would not have been persuasive evidence to me that the land contained petroleum. I don't consider that a gas blow-out would designate that we could have an oil field there. For instance, if you will take all of our fields along the Coast Range, you will find that where you find a gas blow-out, you will find the fields and there,—we get no more oil from that strata in that [1702] field. You can take the McKittrick, the Sunset, the Midway fields and all through, wherever you find a gas blow-out, the oil is burnt out and gone,—we don't get any oil. If I had found stained sand formed by impregnation of oil in Section 32 in 1901, that would have been evidence to me of the existence of petroleum and I would have considered that pretty good "wild-cat" territory. If the oil had been dried up fifty years, I would have considered it a good chance to drill because I would expect to find oil below the surface. I would not expect to find it on the surface.

I have not made an examination of the Buena Vista Hills any more than by going over them the same as I have over the Elk Hills. I never heard of a gas blow-out on Section 11 of the Buena Vista Hills and never saw any cropping of sand there. I don't know that I was ever on Section 11.

In 1901, I didn't regard the Elk Hills as worth anything. I didn't know whether it was deep or not

until after they began to drill over that way through the valley. Then we began to figure that there might possibly be oil territory over that way. It is reported as being deep territory,—my impression is somewhere about three thousand feet.

Under the conditions that existed in 1901 where it would have cost from three to five hundred dollars a month for water and anywhere from eight hundred to a thousand dollars a month for fuel, and where the oil, if discovered, would have to be hauled from eight to twelve miles to the railroad and the price of oil was down to twenty cents a barrel, I would not have advised anyone to go into the Elk Hills and drill even if I had known that there had been a good oil stratum there. A man could go and drill one well and get his land and keep it a certain time until the markets were all right. I don't know anything about the wells in section 30, 30-24, in section 26, 30-23, or in [1703] section 24, 30-23. I have not been to the wells brought in there by the Associated Oil Company.

Assuming that the Associated Oil Company have brought in a well in section 30, 30-24 in the Elk Hills of 28-gravity oil, which ran for several days at 406 barrels a day, I would certainly regard that as an indication of commercially profitable oil territory, and also regard it as proof that the territory immediately around the well was commercially profitable territory.

Mr. Chanslor, with whom I am employed, was President or Vice-President of the Associated Oil Company at one time, I think. He is in the Asso-

ciated Oil Company now, but I don't think Mr. Canfield is interested in the Company at the present time. He was interested when it was first formed several years ago. I think he has sold his stock. He may own bonds in it now.

I have been fairly successful in the location of oil wells, but have made some mistakes.

I did not look over the Midway flat in 1901 and 1902 for oil lands. I didn't think the field would run out that far. I tried to get closer to the hill at that time. I have located them since then. I went into the Elk Hills in 1901 for the purpose of looking at land to locate.

RE-DIRECT EXAMINATION  
OF  
JOHN P. KERR

I didn't find any land in the Elk Hills to locate. I cannot say that there was any special reason for my going there. I have been over most all of the hills, all through the Coalinga hills and down through the Midway and all of them.

I would not consider a well four thousand feet deep that yielded 406 barrels for a couple of days and then dropped down to 20 barrels a day, a profitable well. A well ought to be tested between thirty and sixty days to determine whether it is [1704] a commercial proposition or not. I have known of instances of wells in Wyoming that started in with a very heavy flow and then diminished, but was never interested in

a well of that kind in California. I don't know about other people.

In some territories where the gas is strong, it will flow itself off at first and quit. In other territories where we don't have such strong gas, it don't do that.

RE-CROSS EXAMINATION  
OF

JOHN P. KERR.

In some of the wells in the West Side field—for instance, in the new field of Bellridge—I believe the wells are getting better all the time. In the fields I have mentioned, there is a gradual increase in the production of a well from the time it is first brought in as a rule; we figure that after the oil gets running in the sand, the well should do better; but we don't figure a well from a blow-out. That is the rule as to gushers. It is not a rule in all wells. [1705]

ROBERT E. GRAHAM, a witness called and sworn on behalf of the defendant, testified as follows:

DIRECT EXAMINATION  
OF

ROBERT E. GRAHAM.

I have lived off and on for years in San Jose and am an oil operator. I have been in the oil business since about 1901. I first commenced operating on 25 Hill in the Midway field. Since that time I have been operating most of the time in the field. I have drilled eight more wells on that property.

I am not a driller but superintended the drilling operations on the first well, but have not superin-

tended drilling since then. I have had other superintendents and have handled lands and things of the kind in the oil field. I devoted part of my time in examining land for the purpose of determining its character as to whether it was oil land or not. I have examined lands all through the Midway field and have been all around through that country outside of the Midway field.

I began making examinations of lands in this way in 1901. I was connected with the Elkhorn Company, the Millie-Francis lease and Graham's ten acres. They have been producing oil but the wells are shut down now. The Standard is not [1706] taking our oil on account of its gravity.

Since 1901 I have been connected with those three properties and have handled lands that afterwards had a production. I remained in the west side field until 1904 and it got very quiet and I was out back and forth, but I was there every year two or three times until 1908, and then I went back and have been there off and on very regularly since.

During the period from 1901 to 1905 I passed through McKittrick once in a while in going to Bakersfield or over there to get the train. The wells there, at that time, were in the same place they are now; about the same—there hasn't been much change there that I can see. There were wells right there at McKittrick but there were no more producing wells, in 1901, until you got down towards 25 Hill, around in that country, as well as I remember, and from there

on there were wells here and there into Sunset. Maricopa had some wells. I don't think there was much change in the wells between McKittrick and Sunset from 1901 to 1904. The wells were right on the edge of the hills to the right in the hills. No wells had gone out into the flat. The progress out into the flat has been since 1908 or 1909, as I remember. At the present time they have gone clear across the flat into the Buena Vista Hills.

There was no development in the Buena Vista Hills prior to the time I left there in 1904.

It was a general idea among oil men from 1901 to 1904 that the oil was along the edge of the hills, and, of course, I always figured that there was oil out in the flat [1707] but it would be deep and I guess everybody figured the same way; the majority of them, anyhow.

In the first well I sunk in 1901 we got oil about five or six hundred feet; that is a small well. They had oil down around Maricopa at about seven hundred feet—a pretty good well.

I think the Cresceus Oil Company had the first well in that vicinity where I was. It was on 25, as I remember. But Spellacy had a production on Section 26 before Cresceus.

I have heard of Burks well. I don't think I was there at that time. I was at many wells and might have been there, but I cannot remember it. I always heard it was a producing well.

I first went into the Elk Hills in 1901. We went

down by the lake and drove up on top of the hills and looked around there to see if we could find any oil sand or seepages or anything that looked like oil formations there. I didn't find anything like that. We were in there all day that time. I don't remember the Sections we were on.

I have been in the Elk Hills four or five times as nearly as I can remember. First in 1901, next in 1910. I think I was there once in 1911 and twice in 1912.

From 1901 to 1910 I was always looking up lands to see anything that looked good for oil purposes. If I found anything we located it to see if we could handle it. I did not, during the interval between 1901 and 1910, endeavor to acquire any lands in the Elk Hills because there was nothing [1708] doing over there. There was no excitement in that part of the country and I never went in there at all. I did not think it was oil land. I didn't know but I didn't think it was.

When I went into the Elk Hills in 1910 there had been a well struck in the Buena Vista Hills and there were lots of people going in there and looking around to see what could be done. Some men took me over there and showed me some lands that they had located, had cabins on them, and were supposed to show me a seepage and oil sand. I didn't do anything with the property. I saw what they claimed was the seepage. I didn't know what it was and I could not make out, I could not make anything out of it. I was not attracted by it.

Lots of companies went into the Elk Hills just after that. Barlow and Hill; the Associated Oil Company; the Balfour-Guthrie and the Kinsey outfit, and quite a number that I have forgotten went in there. I don't think I remember the Scottish Oil Company but I remember the Hart Oil Company.

On my trip in 1910 I was on the eastern end of the Elk Hills and in 1911 I went right through about the center of them, through where the Associated well was, or now is. I went there in an auto; just drove right past there and went on over to Section 16.

When I went there first, in 1912, I went to Dave Kinsey's rig, where he sunk a well. The last trip in 1912 was made a couple of months ago. We drove down the valley between the Elk Hills and Buena Vista Hills and cut into the Elk Hills [1709] on the oil road and came right straight back on top from the western end of the Elk Hills to the eastern end of them and down back into Taft. We didn't go to any particular property. We stopped at one or two rigs. There was no oil development work going on while I was there on that trip. There were lots of rigs and derricks but there was no work going on anywhere in the field. I never met a man on that trip.

I think it is a general opinion at the present time amongst oil men that the Elk Hills are worthless for oil land.

### CROSS EXAMINATION

I first went to the west side fields in 1901 from Tuolumne county, where I had been quartz mining.

I had been lode mining for probably a year, continuously, and had done nothing in the oil business before 1901. I first went into the Elk Hills in the fall of 1901. I started in from Section 36, 12-24 near Maricopa. Before that I was drilling a well on 25 Hill and putting in a water pipe line. In going to the Elk Hills that time we didn't travel the road between Buena Vista Hills and the Elk Hills. We went around between the lake and followed the lake until we came to the edge of the Buena Vista Hills; circled the eastern end of the Buena Vista Hills. We went up on top of the Elk Hills and drove around. We didn't go to the seepage in Section 32, 30-24. I never saw that. We came back the evening of the day we went in. I spent about six or seven hours in the hills. The only oil experience I had had before going in there was, I had superintended drilling of one well on 25 Hill. I had no [1710] knowledge of the oil business. The only knowledge I had was from the west side field—from all the wells that were in there and from going to the seepages and looking at that country. From the experience I had had and from the examination, of not to exceed six hours, in the eastern end of the Elk Hills I am not at all willing to testify that they are worthless for petroleum.

I have seen what they called an oil seep in Section 32. I don't know whether it was an oil seep or not. It lays in a canyon. There are two or three places dug out there and it looks as though it might have

been, at one time, oil sand. But I do not know what it is.

I think the oil well on 26, 30-23 was the one I was at.

When I went into the Elk Hills I was looking for seepages, oil sands, and if I had found sand well defined and taken that together with the natural geological structure of the hills, I would have regarded that as a good indication of oil territory.

I know that the Associated Oil Company built a four inch pipe line from their well on 30, 30-24 down to Fellows, a distance of about ten miles. I understood that they built the pipeline to flood those wells. I say that it would cost about thirty or forty thousand dollars to build a four inch pipe line ten miles.

I know of the Secretary's withdrawal order of September 27, 1909. That might have had an effect to suspend operations generally, in the Elk Hills and Buena Vista Hills [1711] to a certain extent; but a lot of development went on after that withdrawal.

I didn't make locations in the Elk Hills because the country didn't look very good. It looked pretty good from a structural standpoint but I didn't find any oil seepages throughout the cropping of sand.

In 1901 I had an opportunity to locate lands in the Midway flats and there was plenty of government land there, which was afterwards proven to be of enormous value for petroleum. My brother located some land there and I was in with him. We started a well up there and gave it up; thought it was too deep.

The Standard Oil Company has it now. If we had had the capital to do it with we could not have drilled it that deep in those days. We didn't have the facilities we have now. If we drilled a thousand foot well then it was a very deep well. We struck along where there was shallow territory.

In 1901 oil was sold in the field for one dollar a barrel to other rigs. There was not any of it hauled out. As soon as drilling was suspended there was no sale for oil and drilling was suspended because the oil fell off to 12 or 15 cents a barrel about 1903 or 1904.

I think there were about 281 wells along the outcrop from six miles west of McKittrick to Sunset, in 1904. There had then been a large increase in the number of wells since 1901 and the wells had gradually gone down the line of contact, down the slope into the valley for some distance during that period.

[1712]

I know that from McKittrick, or even down further northwest than that, I might say, from Coalinga to Sunset along the eastern flank of the Temblor Range where the surface wash comes up and makes a contact with the range itself, that for many miles here and there are seepages and croppings of oil sand and that fact was well known in 1900 and 1901 and it was well known that the cropping of sand there showed a dip or plunge at a gentle angle, off into the valley towards the east from Coalinga to Sunset, generally; and in addition, I might say that it was known

for many years before that time that there were vast quantities of asphaltum about McKittrick where the formation was jammed and broken, showing an enormous natural waste of petroleum. There were evidences there of liquid asphaltum in pools as early as 1870 and '75, where the carcasses of animals had become mired and left. This indicated to my mind, as early as 1901, that the oil horizon extended a good many miles along the flank of the Range from Sunset west past McKittrick, and extended, generally, down towards the valley off of the range there where the line of contact was.

I have been in the Buena Vista Hills. I think they are analogous to the Elk Hills in natural structural conditions. They look a good deal alike. The formation of the Buena Vista Hills, taken in connection with the oil seepage said to exist in Section 11, would indicate that as a favorable place for the accumulation of petroleum, I suppose. It is so considered now, since it has been proven. [1713]

In 1901 I would have regarded either the Elk Hills or the Buena Vista Hills as a favorable spot to locate lands for oil if I had found an oil seepage or an oil outcropping there that I was sure of, and competent oil men of that day believed the same thing.

#### RE-DIRECT EXAMINATION.

I never saw an oil seepage anywhere in the Elk Hills. I have seen what was called an oil seepage there. It was not at all similar to the one in Township 11-20, in the Midway. Prior to 1904 the Buena

Vista Hills were not regarded by oil men as a favorable place for the accumulation of oil. None of them would go over there to drill. My present opinion of the Elk Hills is not based alone upon my examination made in 1901 but is also based upon the wells that have been drilled there. [1714]

SAMUEL SHANNON, a witness called and sworn on behalf of the defendants, testified as follows:

#### DIRECT EXAMINATION.

I reside in Berkeley. My place of business is in San Francisco. I am engaged in banking and in the oil business. I first got into the oil business about 1898 in Coalinga, and remained in the business until about 1907 when I was out of business for about two years, and engaged in it again in the Midway field.

I was General Manager of the different companies in which I was interested. The Twenty-eight Oil Company, the Hanford Oil Company, the Oil City Petroleum Company, the Forty Oil Company, the Oyama Oil Company and the Rico Oil Company. The properties of these companies were all situated in the Coalinga field except that of the Rico Company, which was situated in the Midway field. They were all producing companies.

I have, in a measure, had experience in examining land for the purpose of acquiring new oil territory, only from a practical point of view, not from an expert's point of view. I am by no means a geological expert. I think I went into the Sunset field about

1904, and somewhere along that period I went in the Temblor district, and also in the McKittrick district, and about that time I was in the Midway district. The oil development then was principally in the Sunset and McKittrick fields, fairly close to the Hills.

It was the impression among oil men at that time that oil was situated or could be found close to what you would call the West Side Range; I think it is designated the Temblor—the main range running down west of McKittrick.

I am familiar with the Elk Hills. They were not discussed amongst the people as an oil territory at that time. I first went to the Elk Hills about 1909, I think. I was in the lower part of them at that time, about half way back towards the [1715] upper end. I went there for the purpose of looking over those hills to see what prospect they might contain for oil. My attention was attracted there by the fact that other people were going in. I believe there had been a well drilled by Captain Barneson, I think, where they had got some oil in the Buena Vista hills. I went over and looked at that well before I went to the Elk Hills.

The Elk Hills was simply barren country at that time, with no development. I only paid attention to the Elk Hills for a few months, and acquired some lands there, and then left it to others to take care of. I have not been in the Elk Hills recently. I was there, possibly when one or two wells had been started.

I was induced to go into the Elk Hills by the fact

that other people were going in there. I went with the idea of probably acquiring some lands, thinking that perhaps lightning might strike there. That was about the only reason I can assign for it.

I acquired some interest in property in section 6, 31-24, and in section 28, 30-24. There were several gentlemen interested with me—T. J. Hart and Frank Helm. We put up some derricks there and some houses, and did some general work, but no drilling. I didn't regard it as very good territory to drill in. I simply let the property remain there after spending about eight or nine thousand dollars. We have not done assessment work on the property for the year 1912. The opinion of my associates and acquaintances is unfavorable as to whether or not the Elk Hills are regarded as oil territory. I certainly would not advise anyone to invest any money in the Elk Hills at the present time in the hope of finding oil.

### CROSS-EXAMINATION

of

SAMUEL SHANNON.

I have no business relations, directly or indirectly, with the Santa Paula Consolidated Oil Company, the Zier Oil Company, the Fresno-San Francisco Oil Company, the Penn.-Coalinga Petroleum Company, the Coalinga Pacific Oil & Gas Company, the Commercial Petroleum Company, the Aztec Oil Company, the Guthrie [1716] Oil Company, the Confidence Oil Company, the Maine State Oil Company, the Associated Pipe Line Company, the Section 7 Oil Com-

pany, C. F. Iredell, I. L. Briner, Julius Fried, J. J. Vincent, G. E. Shore, Oran G. Myers, W. F. Porter, O. Scribner, C. A. Murdock, George W. C. Baker, W. W. Machen, M. L. Woy or M. Madzen, either at the present time or at any time in the past, except such business as may be possibly transacted by them through the bank of which I am president.

I don't know how many wells there were from McKittrick, just west of McKittrick, along the line of the Temblor Range on the east flank, down off into the valley, for a distance from six miles west of McKittrick to Sunset, in December, 1904. My general knowledge was obtained from looking over the country. I didn't attempt to try to find out with relation to the number of individual wells that were there. There were quite a number of wells in the Sunset district, and also in the McKittrick district, but I cannot give the number in particular sections of localities, and I am not prepared to state whether there were more or less than 281 wells. Between that time and the time when I visited the country again, the wells had gradually extended into and across the flats, and into the Buena Vista Hills. I did not see any wells in the Elk Hills in 1909. I found a little oil sand in sections 32, 30-23, in the Elk Hills, which we assumed had every evidence of being an oil sand. I am not prepared to say that it was an oil sand. I visited that section and examined it myself, personally. It had every evidence to me that it was an oil sand, although it didn't have the same characteristics that

you generally find in the West Side field in relation to oil sands, because it had nothing in it—it was absolutely dry. I refer to the oil seepages or croppings of oil sands along the main range in this comparison, which extend in a generally northwesterly and southeasterly course along the east flank of the range from about [1717] Coalinga down to Sunset, at different places. I think there would be some difference between sands discolored by a 28 gravity oil and the deposit left by a low grade oil. The low gravity oil would evaporate out and leave the sand in a much cleaner condition than the heavy oils.

The Elk Hills are a desert country, not absolutely devoid of a desert vegetation, but of a desert character; a region of very light rainfall, and sparse vegetation. The Elk Hills are a barren group of hills, somewhat similar in appearance to the Buena Vista Hills. They have a similarity, but run down in different directions, and have pretty much the same characteristics.

I think it was in the spring of 1909 that we acquired property in section 6, 31-24, and section 28, 30-24, and built our derricks within a day or two of sixty days following that. We did no drilling. Never prosecuted the work further than the building of derricks.

I remember the withdrawal orders of the Secretary of the Interior of September 27, 1909, and July 2, 1910. They created a good deal of talk, but I don't believe the withdrawal deterred many that were operating in the Elk Hills at that time from continu-

ing operations; that is, that were in actual active drilling at the time the order was made. It had a very depressing effect upon persons who had not begun drilling, but I think some of them went ahead and expended their money in development anyhow. In addition to the possible effect of the withdrawal order in preventing us from acquiring title, our claim was, I think, contested by other mineral locators, in the court or in the land office, as to section 28. I know that Mr. Wible set up a claim against the people who had the prior location on the land who dealt with us in relation to acquiring title to it, and so far as I know they are now in possession of that section, but I don't know that they are. [1718]

The derricks were put up in good faith for the purpose of drilling a well from one to five thousand feet deep.

When we went into the Elk Hills we seriously meant to go ahead, or to try to obtain someone else who would go ahead with development.

I decline to mention the names of the persons who were associated with me for the reason that I don't know whether they would want their names mentioned or not.

Our interest in the land was not necessarily acquired because of the fact that it was adjacent or close to the oil sand showing in section 32. I think I would have gone ahead and made the same arrangements in the absence of any oil sands that I might have found there under the circumstances surrounding that par-

ticular section of the country, and the activity that was then going on. We followed others who had gone in there.

### REDIRECT EXAMINATION

of

SAMUEL SHANNON.

I made quite a little effort to enlist somebody to enter into some kind of a contract with me whereby they would go ahead and take over the property and drill on it, and I tried to sell it to several different people. I tried to sell it to the Associated Oil Company. I tried to enlist the interests of the Union Oil Company into going there, but I did not succeed in getting either one to take any interest in the property. I presented the matter to the Standard Oil Company with the same result.

The Associated Oil Company enlisted themselves in regard to section 28, in some sort of manner, to try to get the title straightened out that was in conflict with prior localities—I don't remember just exactly what it was. I know from my general knowledge of the situation that that Company was at one time trying [1719] to harmonize the conflicting titles between us and the Eight Oil Company. That was in the interest of themselves as well as us.

U. S. WAUGH, a witness called and sworn on behalf of the defendants, testified as follows:

### DIRECT EXAMINATION.

I reside in Berkeley, California, and am engaged in the oil business. I went to the Kern county field

in 1898. In the fall of 1899 or 1900, I organized a company and started to drill in the Kern River field, and operated there for some little time. In the meantime, however, I looked around over other parts of the county, the West Side. I have been operating more or less since that time. I went to Maricopa in the Sunset field during 1900. I did not go to McKittrick on my first trip. I went up north of Buena Vista Lake; went up by San Emedio, and back over the lake and the Buena Vista hills, and the south side of the Elk Hills, and between the Elk Hills and the Buena Vista Lake.

I was in McKittrick, or as far north as McKittrick, prior to January 1, 1905. I made a half a dozen or more trips there. Up to 1905, I had an interest in the Sunset, and had a homestead on the northwest quarter of 24, 32-23, in the Midway, and spent quite a little time there. There were in the Midway possibly at that time, five mells on section 25, 32-23, and possibly three wells on section 5 in that township. That was all the development between there and McKittrick. From there down to Sunset there was a well drilled below Twenty five Hill,—I have forgotten the section. Between Sunset and Twenty-five Hill a well was being drilled, but they hadn't reached any oil at that time; subsequently they did.

At that time the general impression amongst oil men on the West Side was that the oil kept pretty close to the edge of [1720] that ridge of hills.

I know the Hills called Elk Hills very well, and so

far as my conversation with oil men is concerned, it was generally considered that it was very doubtful whether the Elk Hills were oil lands; in fact they didn't consider it as an oil field at all, or that there was a possibility of getting oil there. I was over in the Elk Hills, on the East Side of the Hills. The road to Bakersfield skirted the north edge of Buena Vista Lake, and follows around the Elk Hills quite a distance to where it crosses the river or canal at Cole's Ferry. This is as far north as I have ever been in the Elk Hills. I followed the road on that side. There is a canyon where the Elk go up, almost due north of the lake, say, the northwest corner of the lake. I was up that canyon about two miles a couple of times, into the Elk Hills, in 1903, to look it over for oil.

In 1903 knowledge came to me of locations in the Elk Hills. A man named Frank Webster in Bakersfield, wanted to know if I wouldn't want to go in with him and drill a well about two miles north of the lake, in the Elk Hills. As a result of my going in there in 1903, I didn't want to consider that property.

At that time I didn't go into any portion of the Elk Hills further west. Subsequently, possibly in the spring of 1910, I saw the more western portion of it. There were a couple of rigs built in there then, and I think they were drilling in one. I don't know the name of the company that was in there. I did not at any time acquire any lands in the Elk Hills.

I don't know that the question as to the depth to

which a well could be economically or profitably sunk was discussed by oil men up to 1905, but I know that wells twelve to fourteen hundred feet were considered pretty deep, and they didn't try to drill any deeper than that.

I had interest in property in the McKittrick district, [1721] in section 12, 30-21, which I acquired in 1908. The general opinion amongst oil men there at that time as to whether the Elk Hills were oil land, was about the same as it had been in earlier years. The Elk Hills have been discussed ever since we knew about oil in the West Side. Attention was first directed to the Elk Hills in the spring of 1910 in the sense that people were going in there and actually beginning development work. I don't know what really caused the excitement at that time. I think the discovery of oil in the Buena Vista hills caused people to go into the Elk Hills.

I know of a number of wells in the vicinity of McKittrick where water was found. I don't know that I could tell the wells. I could point out on the map where one big water well was that flowed there for months and years. It as almost due west, maybe a little north from McKittrick, not very far from the oil wells. The water contains some sulphur. There was quite a little water developed back of McKittrick west of the fields. It was piped to the Midway fields by the Santa Fe Oil Company. I think it is called the C & C Oil Company. It was piped seven or eight miles, possibly further, and I believe it is being used at the present time, and was splendid water.

## CROSS-EXAMINATION

of

U. S. WAUGH.

I did not take up a homestead in section 24, township 32-23 for the petroleum contained in the land. That was the ulterior motive, but it was thrown open by the Interior Department as agricultural land. That was the purpose that prompted me to pick out the homestead. We all did it for that purpose. I never made proofs and acquired title to the land. I spent one or two [1722] nights on it every thirty days myself. My residence was where my wife was then living, in the Southern Hotel in Bakersfield. I knew that I could not without a criminal violation of the law, acquire patent for a homestead unless I made my bona fide residence on it for a period of five years, or commuted after two years; I made my bona fide residence on the land; I had permission from the Land Office that if my wife refused to positively live on the land, and I could get her affidavit to that effect, that I wouldn't have to have her on the ground, and I certainly got her affidavit. It is absolutely so that I never myself lived on the land more than one or two nights in thirty days. I had the land about six months and was contested by the Santa Fe Oil Company, or the C & C Company, on the ground that the land was mineral, and that I hadn't lived up to the laws as required by the Homestead Act. I didn't know the lands were mineral—I felt pretty sure they were.

The Department of the Interior man came through the country there and opened up a portion that was oil-bearing, and another that was agricultural. He drew a line and said, "This is open to homestead, that is mineral." We went along and took up what was open to agriculture. We were authorized by the Government to take it as agricultural lands.

PAUL W. PRUTZMAN, a witness called and sworn on behalf of the defendants, testified as follows:

#### DIRECT EXAMINATION.

I live in Berkeley, California, and am a chemical engineer but devote my attention entirely to oil. I am not a graduate of any institution. I have been engaged in that business since about 1898. I am associated with my father and was in the employment of the State Mining Bureau in 1902 and 1903 [1723] and from the early part of 1910 up to August of last year. I am an amateur geologist, but not by profession. I don't claim to be an expert geologist.

In connection with my official duties in the State Mining Bureau, I visited the oil fields several times. The first time, I think, was in the latter part of 1902. I was there about 35 days at that time. Prior to that time, I had done considerable preliminary work. I took all the maps that were available at that time and had for some time previously been keeping the field index, an envelope index, clippings from the newspapers and such information as came to me. In saying "newspapers", I mean the papers devoted to oil

and mining; and I used the published maps as a basis and drew my own sketch of the fields, showing on them such data as I had collected. Then I took those maps into the field and corrected them, the idea being to get the greatest possible results in the shortest possible time.

I went from Sunset through Midway to McKittrick, and through McKittrick and Kern River and Coalinga, and was, for about a week out of that time, in other fields in southern California.

I used as a basis, principally the maps published by Barlow and Hill and Hedges and Austin. Those maps were most complete. I got small maps of different parts of the field from advertisements and prospectuses, scattering information from all sorts of places. But those were the largest complete maps. Banner, Denny and Company had very excellent maps of the Kern River field.

My recollection is that I first went to the Sunset Section on that trip; that is, it was Pioneer postoffice. It is called Hazeltown now. I have forgotten what the name was then. It was Sunset, anyhow, the southern end of the field. The railroad station was Sunset. [1724]

As to where I went after reaching Sunset, and as to just what I did in carrying on my work, I will say that it has been a good many years ago; I only have a rather vague recollection as to what I did. But I remember being in the extreme southern end of the field on what we call the Austin & Eldridge proper-

ties, Sunset Queen and Earl Crude. That is clear down at the south end, south and east of the old Jewett & Blodget refinery. Then I was around the refinery and as far to the west at that end of the field as any developments went, and to a certain distance out on the plain. I don't remember how far out I went. Those rigs were all shut down at the time. There were four or five rigs which had been working out of the flat, but I think at that time they were all shut down. And then I worked up north; I remember being on the California Fortune. I think I was up there twice. And then I was down at the Lucky Boy, the Arcata and Raisin City.

The last time I was out in the Sunset field I went out through the Midway and took practically a straight course through the field, stopping at the leases which were along the road. I was at the Kern Crown. I drew a line from the Old Mt. Diablo wells to the Midway of Oregon; I took practically a straight line through the field. That was then the developed part of the field. I went straight up the center of the line of wells and visited the leases which were close to the road. I didn't go off any distance on either side. As to what steps I took to acquire information as to the properties that I didn't actually visit in person, I will say that I looked for their superintendents wherever I could find them. A number of those wells were shut down at the time, and you would be more likely to find their superintendents down in town in Sunset or McKittrick than you would on the lease,

and if I found that a superintendent was not at the lease, I would not go on that lease. I would hunt for him somewhere else. And generally I tried to get hold of people who were best posted as to the condition of [1725] the fields.

I was trying to find out, principally, the developments which had taken place. We were trying to locate the wells as accurately as possible. And, particularly, we were very anxious to discriminate correctly between wells that were actually capable of producing and wells that were certainly abandoned, practically abandoned, and wells that were merely shut down. At that time there were a good many wells which were shut down, and their status as to whether they were really capable of production or not was rather doubtful. And then, personally, I was trying to find out everything I could about the country. It was the first long trip that I had made into the country and I was trying to post myself about it as thoroughly as possible.

From Midway I went through McKittrick where I remained three or four days collecting data of the same character.

As near as I can remember, it was about ten days from the time I started at Sunset until I had completed my work at McKittrick. As to what information I received on that trip as to where oil was supposed to be, I will say that I don't remember what definite inquiries I may have made. Of course, oil men always talk more or less about those things. I

was seeking such information, if I could get it. Any information I would have gotten in that way would be hearsay. The oil was in sight in certain portions of the field, which are shown on the maps; that is, oil had been developed there; and opinions differed as to how far out the oil went. In Bulletin 32 of the State Mining Bureau, I summarized the information which I got on that point. That is to say, I gave my opinion as to the extent of the field as shown by—as it could be prospected from developments at that time, and that information, of course, was based on what I learned in the field. It was not based upon my opinion as a geologist.

The Bulletin 32 to which I have referred, was prepared [1726] entirely by me, with the exception of the table of analyses on the back cover. It is entitled, "Production and Use of Petroleum in California," and is dated 1904, and published by the California State Mining Bureau.

The map appearing on page 38 of that bulletin, entitled "Sunset Oil Field," was prepared by me from the field investigations I have already outlined, and embodies a correct representation of the result of my investigations at that time. The same is true as to the map opposite page 40 of that bulletin, entitled, "The Midway Oil Field"; and the map which immediately follows it entitled, "McKittrick Oil Field" and of the other maps of different districts that appear in this bulletin, except the Los Angeles City map.

Counsel for the defendant at this time offered in

evidence all of the bulletin from page 1 to the bottom of page 49.

The witness, being questioned by Mr. Mills, attorney for the plaintiff, as to the competency of this exhibit, continued as follows:

When I stated that I prepared the map opposite page 38 of the bulletin, I meant, literally, that I drew it. The information embodied was gotten in the way that I have stated. I took all the published information I could get and from that prepared a map, which I then took into the field and corrected. I don't pretend to have made a survey of the field. The map is a compilation from other maps, checked up by field observations, by driving along the road, but not with surveying instruments. I didn't take surveying instruments or find the corners of the Sections. As to that, it is not essentially a compilation of other maps, for the reason that the data accumulated by compilation was checked by the information of people who did know the corners. For instance, if I wanted to find out whether I had correctly located a well on the southwest corner of Section 6—I am referring now to the Sunset [1727] map—I would not take instruments there and locate the well and locate the corners and find out whether it was correctly located on the map, but I would find, if possible, the superintendent of that lease, or if not possible to find him, some one who was thoroughly acquainted with the country, and show him my map and ask him whether, according to his information, the well was correctly

located. Or I depended upon what friendly neighbors said as to the location. I had no personal knowledge as to the exact location of the outlying scattered wells with relation to the parts of Sections, but I didn't mean in my statement above, to say that I didn't know the locations of some of the Section corners in other places. I didn't go out and find corners but in very many cases the corners were perfectly evident and could be seen. I can not state at this distant time what corners I did find.

The question mark in the northwest corner of Section 6, Township 11-23, relates to whether the well was drilling or was abandoned and does not raise the question as to its location.

Mr. Milles, attorney for the Government, at this time objected to the introduction of the Bulletin referred to "because I have not had time to examine them further than merely as to their competency because it appears now from the testimony of the witness that they pretend to no accuracy whatever as a picture of the field, but are the results of compilation from two or three different maps of the West side field, together with prospectuses of oil companies, which are notoriously inaccurate, and of which the Court will probably take notice, and from newspaper clippings and neighborhood gossip. I reserve the right further to object to the reading matter because I have not the time now to read that over, unless you want to take the time".

Thereupon, Mr. Lewers, Attorney for the defend-

ant, replied: "I consent that you may take such objection by a motion to [1728] strike hereafter."

The Bulletin referred to was then offered in evidence and marked "Defendant's Exhibit 13".

The witness, being questioned by Mr. Lewers, continued as follows:

The Bulletin was published and circulated as an official document of the State Mining Bureau. It was circulated mainly in California, though a good many copies of all Bureau publications go East and go to Europe.

At page 41 of the Bulletin, under the head of "McKittrick", I was referring to the main hill range on which the older wells were located, the hills on which, for instance, the Dabney wells are located and the parallel range which is now known under the name of the "McKittrick Front". I didn't by that language include the Elk Hills. If I saw the Elk Hills on that occasion when I was collecting information for the purpose of preparing this bulletin, I didn't recognize them; I didn't know them under that name. I didn't go into them. My attention was not directed towards the Elk Hills by anyone I met in response to my inquiries as to oil territory.

I started the preparation of the matter for this bulletin immediately after my return from that trip. The writing on the bulletin was finished during 1903.

The statistics mentioned in the first part of the bulletin were collected and the summaries there given, were made by me. As to how extensive my inquiries

were made in the field, for the purpose of determining the location of the wells as indicated on the map, and also their character, whether abandoned or drilling or producing, I will say that I devoted as many hours of the day to it as I could find anyone awake. I visited almost every location where any oil was being produced. Many of the abandoned wells I did not visit. I got information as to the depth of the well [1729] from the statements of parties interested in the well, who had direct knowledge.

I obtained information as to the location of a given well in any particular Section or Township by making inquiry from parties who were supposed to have first-hand knowledge in cases where the lines were not plainly to be seen on the surface. I got this information from superintendents, drillers, tool dressers, pumpers. I got more information from pumpers than from anyone else.

Preparation of this data was entirely for public use. I never made any private use of it, whatever.

### CROSS-EXAMINATION

of

PAUL W. PRUTZMAN.

The Elk Hills and the Buena Hills are not strictly parallel with the hill-range situated west of McKittrick. They are very close to it. They are parallel to the hill-range which stands north of McKittrick.

When I said in the bulletin mentioned, that "it is probable that the parallel hill-ranges, which are remarkably regular and persistent, are of anticlinal

formation, but such anticlines, if they exist, are certainly much folded and the productiveness seems to be largely determined by the presence or absence of these breaks", I was not referring to the Elk Hills or the Buena Vista Hills for the reason that they did not come strictly opposite McKittrick, to the best of my recollection. I had never visited those hills at that time and knew absolutely nothing of them. I was referring there, I feel very sure, to the range of hills lying opposite Olig station and the main range of hills on which the development work had been done.

My answers on questions of geology would be of no value, whatever. I am not a geologist. I believe I took that statement [1730] bodily from a previous publication of the Mining Bureau,—though even of that, I am not certain. I have a general idea that the words "middle Neocene" mean,—but I would rather not be asked questions on geological subjects. The total amount of space devoted to Geology in that Bulletin is, I should judge, about a page; and, as I say, I think I took those statements bodily from previous publications of the Bureau—from publications by W. L. Watts. I have had occasion since then to revise my information on that subject very considerably. I would not want to follow some of the information I had at that time. I am perfectly willing to respond that I do not know what "middle Neocene" is or what "upper Neocene" includes. I know what an anticline is.

CHARLES A. HIVELY, a witness called and

sworn on behalf of the defendants, testified as follows:

#### DIRECT EXAMINATION.

I have lived in Coalinga ever since 1908, and am now employed by the Kern Trading & Oil Company as Field Superintendent of the Coalinga district.

I have been connected with the oil business since 1900, and began my work in that connection in McKittrick. I was employed at that time as bookkeeper for oil records, etc., by J. B. Treadwell, who was General Manager for the Company at that time.

I left McKittrick the latter part of November, 1905, and during that time I was acquainted with Professor Josiah Owen. I first met him in the fall of 1902. As I understood it, he was geologist for the Company; was General Superintendent of oil interests under Professor Dumble. He used to make the fields pretty near every month. He did most of the work in the geological line out of McKittrick and equipped his wagon and supplies from the K. T. & O. camp. I have never been in the Elk Hills. [1731]

Professor Owen made the entire field, from McKittrick to Sunset and Midway, and then to the west and north, out by the Devil's Den, and also the McKittrick front, and he was examining the Elk Hills country.

I only know that he examined the Elk Hills country from one statement he made to me, I think sometime in the fall of 1904 or 1905. He came into the office one evening after he had been out a couple or three days,

very tired, and said that he was all worn out from horseback riding, and that he had been over every foot,—or some expression of that kind,—of what is known as the Elk Hills territory, trying to discover some indication of oil. He told me he was unable to discover any indications which led him to believe that there was any oil in the Elk Hills field.

I know that he had been in the Elk Hills field prior to that, but he never mentioned it to me; and I think perhaps on this particular occasion he had possibly put in two days in that field.

Mr. Owen was very close-mouthed in talking about what he was doing. If you got any information out of him you generally had to pull it out, as far as I know. He never talked of his business to me, only so far as the operating and drilling of wells was concerned on our particular property, and he never discussed the geological conditions of the surrounding country—rarely ever.

I left McKittrick in the latter part of November, 1905, and went to the Kern River oil fields, and remained there until I went to the Coalinga fields in November, 1908.

During the time I was in McKittrick, from 1900 to 1905, my recollection of the Elk Hills property was that it was of no value. There was very little doing in investigating the property, and I never heard much of anything said there until after I got to Coalinga in 1908 or 1909. It was generally conceded that the [1732] property was of no value. The only way that

I can determine it to be by the name of Elk Hills is from the fact that a great number of elk used to roam in those hills, and they have been spoken of as the Elk Hills on that account.

I first began work in connection with actual drilling of wells in the summer of 1903, probably, at McKittrick, and since that time I have been at the head of the drilling of wells in all the fields I have been associated with, with this company, from the McKittrick to the Kern River field and the Coalinga fields. The wells have all been drilled under my supervision.

At the time I left McKittrick the producing wells were from six hundred to approximately ten hundred feet deep.

At the present time in the Coalinga field, the deepest pumping well I know of is probably three thousand feet. The Mohawk No. 1, a flowing well, is either 3860 or 3960 feet deep. The depth from which oil could be pumped under present conditions with the best available appliances would depend entirely upon the amount of oil the well might produce, and also on the viscosity or gravity of the oil. In a very light oil you could pump successfully a well much deeper than you could a well of heavier oil, for the reason that the viscosity or lifting of the pump carries more weight, etc., and the rods get troublesome and cause more trouble than a well that produces lighter oil. But it is generally conceded that unless you get a flowing well, after you get four thousand feet deep,

it is difficult to operate. We figure that the deep wells will be the flowing wells; otherwise, we would not drill them, and we would not drill a well 4000 or 5000 feet deep for the purpose of pumping it, for the reason that it is too expensive. It does not pay to keep the well in operation.

### CROSS-EXAMINATION

of

CHARLES A. HIVELY.

The Kern Trading & Oil Company, by which I am employed [1733] is one of the defendants in this case. It was organized in 1903. It was called the Southern Pacific Oil Company at the time I became bookkeeper in 1900. That was the company of which Mr. Treadwell was the expert. It was then operating at McKittrick and Kern River. They hadn't started their operations at Coalinga.

At McKittrick we operated on Section 20, near the town, where we had some seven or eight wells.

We went down to what we termed the North end, but it was really west or northwest of McKittrick, and operated on the Devil's Den lease, called the Davis lease, in Section 13. In the Kern River field in 1900, the company had 480 acres on which there were quite a number of wells.

I knew Mr. Treadwell as our General Manager and Geologist, etc., in full control of this property,—operating lands for oil and acquiring new properties for that purpose. He had his office at the Kern River fields. I was never immediately under him. W. E.

Ott was superintendent under Mr. Treadwell, and I was under him. Mr. Treadwell was the General Manager in charge of the development of land for oil. I don't know that he had anything to do with acquiring new oil lands. I presume he did examine lands for the purpose of determining whether they were oil lands or not, and went back and forth between Texas and California. I don't think that we had maps in colors showing lands which were oil lands and which he was operating, but in later years, after Mr. Treadwell left and the management changed some, we have been showing in colors, not particularly oil land, but the Kern Trading & Oil Company lands in yellow. I don't recall the map which Mr. Treadwell is said to have kept. I never have seen it. He might have had one in his office in the Kern River field.

I think Mr. Treadwell severed his connection as oil expert and geologist of the lands of the Southern Pacific Company about 1903 or 1904. As soon as the Kern Trading & Oil Company [1734] was formed, Mr. E. T. Dumble succeeded him.

When I said that "Mr. Owen was the geologist of the Company, but he was General Superintendent under Professor Dumble of the oil interests," I meant that Professor Dumble was General Manager and Vice-President of our Company, and his home was in Texas, and Mr. Owen was made General Superintendent directly under Mr. Dumble, and, of course, we were under Mr. Owen directly. I understood that

Mr. Dumble was oil expert and chief consulting geologist of the Southern Pacific Company.

The Southern Pacific Oil Company might have been a distinct corporation. I didn't know. They used the Southern Pacific Company stationery largely, the Southern Pacific Pay Roll, etc. At that time we paid all our men with a sight draft on J. P. Treadwell. I made the drafts. That was the custom when I went there in 1900, but not at the time the Kern Trading & Oil Company was organized. Our records, all the books we kept there, were kept as the Southern Pacific Oil Company.

Mr. Owen did not keep an office at McKittrick. He had no headquarters of his own. He was often in McKittrick, and used to make the fields pretty nearly every month. I knew him from the first time I met him in 1902 or 1903, until his death. He put in his time in the mountains examining the country for oil, what he supposed might contain oil, in all directions around McKittrick. He had a camp outfit and spent considerable time with it. One camp outfit consisted of a wagon and two horses and a full camp outfit. He was equipped for camping out in the mountains. Sometimes he would be gone two or three weeks before he would come in. He would get his supplies at other points. I don't know what the nature of his work was when he was out with the camping outfit any more than that he was a geologist and looking over the ground. I always had an idea that he was examining lands claimed by the Southern Pacific Company more than anything else. [1735]

When he would start out he would say, "I am going through a certain territory of the country—the Elk Hills," or something of that kind—and further than that he did not say anything until the one particular time when he spoke of being in the Elk Hills, and aside from that particular time when he mentioned the Elk Hills, he did not say what he had discovered. Mr. Dumble and Mr. Owen used to go out in the field together every once in awhile after 1903. Mr. Dumble made trips from California to Texas three or four times a year. Mr. Owen was almost always with him. He and Mr. Owen used to go out together and go over the operations, etc., and go back probably the same day. I always met them with a rig at the depot, and did the driving myself—that is, when Professor Dumble was along—and took him over the field and our operations. They never went without me, unless they just walked around the property.

Mr. Dumble hardly ever stayed over one night, many times not that long—just between trains, sometimes four or five hours, between trains; get there about ten, leave at three.

I couldn't tell how many times Mr. Owen had been in the Elk Hills before he mentioned to me that he didn't discover oil indications there. I don't know that I ever knew of his being out there except two times, one time that he didn't tell me anything, and the other time. He mentioned once that he was going there, but didn't say anything about it when he came back. That might have been seven or eight months before

the time that he told me that he had nothing that would lead him to believe that there was any oil indication in the Elk Hills.

If Mr. Owen had come back and told me that the Elk Hills was oil-bearing territory, I would now testify to that fact as quickly as I have testified to the fact that he told me that he didn't think they were oil-bearing. I have no reason to think that I would not be able to hold my position [1736] as Field Superintendent of the Kern Trading & Oil Company if I had testified that he did tell me that they were oil bearing territory. If I could not hold my position without perjuring myself, I wouldn't want it with that Company or any other Company. It wouldn't be a question to me what they would think. I consider that it is not necessary to perjure myself for my employer or anybody else. I feel that I can make a living whether I work for the Kern Trading & Oil Company or not, and I am not a criminal.

I never heard that Mr. Haberkern had been out with Professor Owen in the Elk Hills. He might have been—I don't know. He was friendly with Mr. Owen.

Mr. Owen did not tell me that he had not fixed the anticlinal of the Elk Hills. I have never been in the Elk Hills, and don't know of an outcropping of oil sand in section 32, 30-24. Mr. Owen never discussed that supposed showing of oil with me, nor mentioned anything about the anticlinal structure in those hills—never mentioned anything to me further than when he came in tired that night and said that he had been

all over the Elk Hills territory, and he could find no indications that led him to believe there was any oil in that territory, or would be. I don't know that Mr. Owen was ever interested in the acquisition of title to even numbered sections of land interspersed with the lands in suit for minerals for the reason that the superintendents in the field were not informed of any knowledge of anything of the kind. Everything was kept from them if there was anything going on. We knew nothing about it. I didn't know at that time that Professor Dumble, Chief Consulting Geologist of the Southern Pacific Company, was interested in the acquisition of the title to lands in the Elk Hills adjoining and interspersed with these lands in suit. I heard afterwards they had formed some kind of a company there—Section Eight Oil Company, and that Owen and Dumble were in it; but I knew nothing of it then. I don't know whether Mr. Wible and Mr. Haberkern [1737] were interested in that company or not.

Mr. Owen never discussed with me his discovery of an oil sand showing or oil seepage in Section 11 in the Buena Vista Hills. He in no manner discussed with me his geological investigations.

W. H. OCHSNER, a witness called and sworn on behalf of the defendants, testified as follows:

#### DIRECT EXAMINATION.

I live in San Francisco. I am a consulting geologist with special reference to oil. I have been engaged in that profession since the summer of 1907.

As to my educational training, I will say that I began my work with two Eastern institutions, Kentucky University and the University of Wisconsin, and finally with Stanford University. Before taking up the oil work, I was associated with the California Academy of Sciences. I was their geologist on an expedition to the coast of South America, scientific study of the Galapagos Islands and the outlying islands of the west coast of Central America and Lower California. We were on that expedition a year and a half, in 1905 and 1906. I am assistant curator of the Department of Invertebrate Paleontology of the California Academy of Sciences at present. Frank M. Anderson is the curator of that Department.

When I first became interested in oil geology, I was employed by the Kern Trading & Oil Co. My headquarters were at Bakersfield. My district was the Sunset, Midway, McKittrick and Kern River areas, districts, and it was my duty to work up maps, both property location maps for the wells, work up the history of the field, old prospect wells, and to work out in detail some geological problems of the neighborhood involving the districts [1738] that I named. I began that work in the summer of 1907 and continued it until the close of that year.

In the beginning of 1908 I was transferred to the Associated Oil Company and was with that company a year and a half, I believe. I was employed regularly in the Los Angeles field, the Puente hills, the Ventura district, as far north as Santa Barbara.

There were occasional trips made out of that district into other portions of the state. My special work was to examine prospects that were submitted to the Associated Oil Company for purchase or lease.

When employed by the Kern River Trading and Oil Company my work began with the study of the Kern River field, the study of well logs, and mapping out of the underground conditions. The work was then carried to the McKittrick field and the conditions in Sunset were a similar sort of study. I devoted a good share of the summer of 1907 to work in the McKittrick district.

As to the nature of the work in the McKittrick district I will say that it began with the working out of a property map showing the location of the development of the neighborhood and the distribution of all the old wells, that is, attempt to work out the location of the present development at that time, and the location of the old prospect wells. This was supplemented later on by a working out of the geology, the differentiation and general geological study of the district as related to the development.

In carrying out that work I examined the country about as far north of McKittrick as the beginning of what is known as the Temblor district—that would be about seven or eight miles north of McKittrick—and from there south as far as to three miles southeast of the old town of Sunset or Monarch.

I was working under the direction of F. M. Anderson and was very well acquainted with Professor

Josiah Owen. I first met him in the summer of 1907.  
[1739]

My work in that district covered the Elk Hills. I was engaged, as I explained, in working out the geology of the McKittrick field; and the relation of the Elk Hills and the Buena Vista Hills and the neighboring structures, and topography came in as a natural sequence in that study. I began with the McKittrick field as a center and carried the work to what is known as the McKittrick front. To show the sequence or arrangement of this work, the McKittrick front topography, a low-lying range of hills, is the beginning of the Elk Hills, and beginning there I carried the work on through to the large topographical feature called Elk Hills.

The work in the Elk Hills covered several days. I was in with a saddle horse and made trips back and forth. I was allowed my own time and opinions and privileges in working on the territory, and afterwards discussed the results of my observation with Mr. Anderson. I had no one, strictly speaking, assisting me in the field. Professor Owen did not assist me in any portion of my work in that territory. I had some conversation with him with regard to the Elk Hills in the summer of 1907.

Mr. Owen and I met on the the train and spent the whole of that day, and, I believe, two subsequent days in working in the Sunset field. We went to the old town of Sunset, and employed a team and went out out from there, and were making a little hasty study.

Mr. Owen had some territory near Maricopa, what was then Maricopa or Sunset, to examine; and in our day's work and the two or three days' work that followed, the conversation was brought up about my work, what I had been observing and what I had seen, what my conclusions were on the problems and the conditions in there; and the relation of the Elk Hills and Buena Vista Hills to the rest of the area was brought up. In that conversation we discussed the question of the Elk Hills and the relation of that to the territory, and Mr. Owen asked me what I thought about it; and [1740] I told him that I had not completed my work and hardly knew what to think; and Mr. Owen went on to say that he thought the Elk Hills would not be productive territory; that he thought the hills were too far out to fill. That conversation took place probably in August 1907.

I don't remember that I made any examination in the McKittrick district for the Associated Oil Company. I have made examination for other clients. After leaving the service of the Associated Oil Company I entered the advisory work and became the advisor of a number of investors, with special reference to oil.

My additional work in the McKittrick field was carried on for different clients, operating companies, and comprised a number of visits to the field, with special reference to development and proposed development, proposed purchases of properties, from 1909 until the present year.

In the summer of 1909 I made a trip in to the Elk Hills with clients who proposed a development there; with Mr. Dyer, Julius Fried and Mr. McReynolds. We spent a day in the Elk Hills. Mr. Fried wanted to chose ground in there for the purpose of sinking a prospect well. We went at their own solicitation, their own wish, their own idea that that might be prospective ground, but they asked that I make an examination for them to determine whether or not they should make the venture. They had been told that there were seepages there, actual occurrences of brea and dried sands, and they wanted to see for themselves, and if they were there, they wanted to have their scientific relation explained.

We went to an alleged seepage about the center of the hills, a short distance north of the highest point of the hills. That particular locality occurred—was constituted by a small amount of black, tarry-black, looking substance lying in patches or in beds on the soil. Part of the material had been exposed by a little surface work, a little tunneling, and proposed [1741] development work on it.

I determined that it was an occurrence of organic material, probably plant remains, occurring in a well-known plant horizon, near the top of what was called the Tulare formation. The Tulare formation is a soft, unconsolidated brackish water-occurrence, deposited during semi-tropical conditions, and it was natural for an occurrence of vegetable matter to be deposited at this time in such a place. It was not an oil seepage.

I made two visits to the Elk Hills subsequent to that time; to the southeast and south side of the hills, to the district which later had a development by the Balfour-Guthrie, the Hart Oil Company, and others.

From the examination I carried on in 1907, I concluded that the Elk Hills may have small scattering amounts of oil but that they would not be important from an economic sense. In stating my reasons for this conclusion in brief, I will say, the Elk Hills and the structure of which they are a part, lie east of an overturned anticline of Monterey shales. The production from the Monterey shales, the oil which we have known in California, is indigenous, has its direct origin in those shales, and must have passed eastward against the formations to impregnate the beds and the formations which constitute the Elk Hills structure. Such a thing would be quite impossible in any quantity. To carry the same condition further south, to the southern end of the hills, the Elk Hills leave the main range, the main occurrence of the parent shales, the Monterey, at a constantly increasing angle, constantly greater and greater distance away from the source of the oil. As you go in that direction the formations become regular again and sweep off the southeast from the Midway field, and as the formations become regular, the possibility of oil passing upward, occurs. The Buena Vista Hills, rising as a permanent anticlinal structure, stand as a barrier between the migration of [1742] oil from the west and the occurrence of the

Monterey shale to the east to the location of the Elk Hills.

There is a very narrow interval and probably a very shallow one between the south end of the McKittrick anticline, terminating somewhere near the bench-mark mapped upon the United States topographic sheet, and the beginning of the Buena Vista structure, I think a distance of perhaps two miles. Although the actual beginning of the Buena Vista structure is not definitely known, it can be estimated.

If the migration did take place from the west towards the Elk Hills, the most favorable place to find oil in those hills would be on the southeast side in and about two small local structures which are a part of the main fold and which are down on the southeast side of the hills.

In explanation of the reasons for the conclusion I reached and the structure of the country as I worked it out, I will say that "beginning with the old series of tertiary beds that comprise the eastern side of the Mount Diablo Range, the sequence up to the deposition of the white shales at Monterey is complete, and forms one unit, practically. The oils held in the San Joaquin Valley, and especially in California, are to be referred directly to their relation to the Monterey shales, or to a shale like it, composed of essentially the remains of marine infusorial life or small minute life of marine growth. The shales were laid down in quiet waters. The life, the minute forms of life, are littoral, that is, they were laid down in waters of moderate depths along the shores. The condition of a for-

mation lying close to the Monterey, its productiveness, is governed by a number of conditions.

The productiveness in formations lying next to the Monterey are controlled by the generalizations mentioned. The beginning of the Elk Hills as beginning in the McKittrick front anticline, should receive this oil from the Monterey shales near. [1743] The structure of the Monterey there is a complex overturned anticline. We can think of an anticline as that uplift in sediment in otherwise horizontal beds which would have the structure or shape of the roof of a house. If one side of that house, one side of the roof, was turned back upon itself we would have a condition of an overturned anticline. It has something of the appearance of the letter "S" and comprises the entire area of the McKittrick field, beginning with the point at Frazer's Spring on the north of McKittrick and going as far south, approximately, as the bench-mark on the road about four miles south of McKittrick and is continuous between those points. The formation that forms the structure of this inverted anticline is the white shale of the Monterey, which was first laid down in a horizontal position.

The main uplift of the Coast Ranges occurred at what is called the close of the Monterey. It was at this time that the Monterey beds were highly tilted and received the complex structure and bending which they exhibit today. The Elk Hills were not in existence at that time.

The beds of the Monterey along the Temblor Range were originally horizontal and then they were sharp-

ly tilted. That tilting took place throughout the whole distribution of the Monterey shales and the formations underneath which formed the main bulk of our present Coast Range and the Mt. Diablo Range in particular.

A large inland arm of the sea occupied the present position of the San Joaquin Valley. The center of the field was filled with marine waters. The distribution of the Monterey shales can be carried as far southeast as to about the San Emidio Ranch, with constantly thinning occurrences and more and more occurrence of sands. It indicates that as the Monterey went further and further east it became more and more sandy until we reach the opposite side of the Valley around Bakersfield, and in there we [1744] find the equivalent of the Monterey time, its geological unit, composed of sandstone and sandy shales.

As to the methods employed to determine whether that represents the same period of time, I will say the formations are differentiated on several grounds. First of all, their physical appearance. But the most important correlation of beds in one district with beds in another is founded upon the occurrence of invertebrate fossils, that is, the marine shells and their distribution. They come and go in definite species and groups; they occur at certain places in our geologic formations and disappear again. Hence the importance of the study of those forms which bring the most definite correlation of geologic time of one area to another.

As to the situation where the Elk Hills now exist I would say that after the uplift in the Temblor Range at the close of the Monterey period, the indications are that the whole San Joaquin Valley was a gentle trough filled with marine waters, and the position of the Elk Hills in the neighborhood was then synclinal.

After the close of the Monterey period and the uplift referred to, the formation called the McKittrick was deposited. It consists of the detrital material taken from the neighboring hills, the Mount Diablo Range, and carried out into the waters of the San Joaquin Valley and deposited there in a definite formation beginning with sands, gravels, at the bottom, going up through to blue sandy shales and forming a considerable thickness. During this time the coast ranges are slowly rising—there is an elevation—and as they do rise the marine waters of the San Joaquin Valley, that area, are drawn off, and leaving brackish water, lagoons and occurrences of that kind. This marks the beginning of the Tulare formation.

The Tulare comes in as a part of the McKittrick, and [1745] comprises the top of the total thickness of that formation.

The material of the McKittrick formation came from the Mt. Diablo Range on the west and the material on the east came from, probably, the Sierra Nevadas. It came from higher elevations of ground existing at that time. It was the result of erosion. While such erosions are taking place the coarser

sands will be deposited near the shore-line and the lighter materials, the silts and thin muds, are carried further out and constitute the formation further in the valley. The deposits favorable for the accumulation of oil will be found close to the shore-line, or close to the present occurrence of the Monterey shales on the north edge of the San Joaquin Valley.

As you progress away from the shore-line, out towards the center of the original synclinal valley, the sands become less and less in quantity and in their occurrence, until their probably total absence, and in their stead the thin shales, sandy shales, muds and clays are deposited.

I have made a study to determine the manner of the migration of the oil which accumulated or originated in the Monterey beds. These studies were carried on over the important districts and prospect districts of California. It is from the study of those places that we are able to determine certain generalizations which are, first of all, the oil will occur either within the Monterey shale as its original home or it will occur in a formation above, secondary to the Monterey and near it, according as the compression of the shales is within the shales themselves or the result of the weight of an overlying formation. The first step in that is that we recognize the Monterey in a particular place as being the original source of the oil and that this material in the Monterey was distilled off by one of the two processes of distillation, either a compression from above, as indicated, or com-

pression from within the shales themselves due to a tilting and breaking and [1746] bending of the shales.

Where we have a compression of the structure of the shales due to bending or folding, the oil is held within the shales, and does not migrate into the neighboring formations.

An excellent illustration of it is in the Santa Maria field, the relation of production there in the Monterey shales where the compression is within the beds to a production not far away where the oil has entirely left the shale and impregnated a formation secondary to the Monterey and above it. The specific examples are the Penel drawing its oil from the Monterey, and the area in Cat Canyon, Palmer and others, drawing their oil from what is called the Fernando, or the equivalent of the McKittrick formation.

The overturned anticline I have mentioned was formed before the deposition of all of the overlying formations and was close to the Monterey time, and its effect was to form a syncline immediately east of McKittrick. I have not been able to determine the depth of that syncline. It can be determined by drilling a deep well. I am familiar with the territory just referred to east of McKittrick and with wells drilled there; at least three wells with which I am familiar have been sunk in the synclinal trough lying to the east and north of the overturned anticline at McKittrick. The first is the Santa Susanna on Section 18, I believe. The most important well was, I think, in Section 2, the Leader well, drilled to a total depth of

2250 feet, if I remember rightly. I examined the log of that well and found the McKittrick formation at the bottom. It had not yet reached the Monterey formation.

The surface evidence of the last disappearance of overturned anticline as you progress towards the southeast is probably a short distance north of the bench-mark on the road between the McKittrick and Midway districts, about Section 2 or 3 of 30-22. [1747] By this I mean, that is the last surface evidence that the bed plunges towards the southeast, and that that structure continues for some distance and finally dies away to give place over there on the south to the normal structure again.

As nearly as can be determined from geological evidence, the Monterey beds in the Midway were at the close of the Monterey period and were in a normal monocline but steeply dipping towards the valley in one direction at quite strong angles. The monoclinal beds of the Midway district southeast of McKittrick, where they are normal, would mean a gentle depression in the area to the east, or an area of the marine waters where the McKittrick beds were deposited. In front of the McKittrick overturned anticline—by “front” I mean to the east or to the north—we have a very great depression, caused by the S-shaped structure of the Monterey beds. Mountain building is topography; neighboring territory, always depressions. Depressions are relatively great or small according as topography is sharp or gentle. The area

east of the overturned anticline would represent, then, a considerable depression, a very deep one.

The area east and north of the McKittrick structure was filled with water first.

In instances where the compression upon the Monterey beds is not formed as a result of folding or twisting in the beds themselves but comes from an overlying deposit, the migration of the oil is upward, both vertically and along the dip of the formation. It migrates and impregnates the overlying formation, as is the case in the McKittrick formation.

In the particular area of the Midway field, the deposits of Monterey shale contain some sands, but in very minor amounts,—small lenses, not in any marked thickness and not of a very great extent. The formation is essentially shale. Where there are stratifications of sand within the beds of the Monterey itself, [1748] the oil would tend to follow the laminations of the beds if the sands were thick and very porous.

After the upturning of the Monterey beds forming the beginning of what is termed the McKittrick, the deposits consisted of coarse gravels and sands at the bottom, followed by shales and clays above. The last sands and gravels at the bottom of the McKittrick formation would be the line of least resistance for any oil that passed into it from the underlying Monterey formation and it would pass into it with the stratification.

Geologically speaking, there was a very considerable interval between the upturning of the Monterey beds and the laying down of the McKittrick. That is

what is called an unconformity. The geologic evidence indicates that at the time of the deposition of the beginning series of the McKittrick formation overlying the Monterey, shore-line conditions existed and the semi-tropical conditions I have referred to existed to the close of the deposition of the marine shore-line material which constitutes the McKittrick formation, there was a gentle drawing off of the waters of the San Joaquin to develop the Tulare or the brackish water semi-tropical conditions. I designate all the soft shales, clays, unconsolidated and containing brackish water fossils or fresh water fossils as the Tulare formation. That is the present surface of the Elk Hills.

The overlying formations would effect the migration of oil that had passed, if any did, from the Monterey beds into the overlying formations of the McKittrick. The important condition which affects the migration is that of a gentle monocline, gentle eastward dipping beds, of the McKittrick, which we will assume have already had the impregnation of oil from the Monterey. The petroleum would tend to rise along the gentle dipping beds towards their outcrop or their occurrence at the surface. The beds would cause it to do that. Formations underground are always attempting to [1749] segregate themselves owing to the porosity of the beds according to their specific gravity. Water, being heavier, takes possession further down the dip, or at greater depths, forcing the oil to rise to higher or shallower depths. It would rise to the high-

est possible point or reach the seepage outcrop at the very edge of the valley. For illustration, to make that clear, the oil would accumulate and would tend to rise on the west side of the valley until reaching a defined outcrop back of the Midway field. The east side might be explained by the occurrence at Kern River.

According to geological evidence, the Elk Hills were not in existence when this migration was going on, that I have referred to. The geological evidences are that the place where the Elk Hills are now situated was then a deep syncline, and there could be no oil in the syncline if water remained there in any quantity. California had a general period of disturbance in what is called the "Pleistocene Period" in the McKittrick and the Midway area, as represented by the Tulare time. That disturbance was very gentle, very slow. The uplift of the Buena Vista hills and the Elk Hills would form a favorable place for the trapping and accumulation of oil that was in the McKittrick formation overlying the Monterey in the area between the old shore-line at McKittrick and these hills. If the Elk Hills were fed with oil, the supply came from oil from the very top portions of the syncline. The Elk Hills approached the main range most closely at McKittrick.

The conditions existing at McKittrick during the period when the McKittrick formation was laid down would be favorable for the accumulation of water in what might be oil-producing sands. The three wells I have mentioned are proof that water was present in

very great quantities instead of oil. One of these wells, the Leader well in Section 2 near the place marked [1750] "research" on the map, was completed last year, I think. The shallower ones were sunk a number of years ago, I think as early as 1904 or 1905. I visited one of the wells in 1907, an artesian head of warm sulphur water.

As to the conditions found in the midway flats lying south of the Buena Vista Hills as to the presence of water, I will say that we have, between the anticline of the Buena Hills and the monocline of the Monterey shales to the west on the west edge of the Midway field, developed a syncline. Wells have been drilled into this syncline, and have come in with a phenomenal production, but I believe every well when continued to produce for any considerable length of time—a few months—developed an emulsion, and the emulsion indicates the presence of water in the syncline. That syncline is probably not as deep as the syncline of McKittrick.

I first reached my conclusions as to the structure of that country in the summer of 1907. I did not embody that conclusion in a report of any kind at that time. The reports began with the working out of maps, surface maps, property maps, showing the location of wells and field data. It was proposed that each area would have added to it the geologic data. The work was never completed because I left the service of the K. T. & C. before its actual representation in written reports.

I did not consider the Elk Hills as valuable for oil

in 1907 and do not so consider them now. I believe I mentioned this conclusion in a conversation with Mr. Owen at that time and afterwards with Mr. Anderson.

I am acquainted with the occurrence of seepages near the contact of the McKittrick formation with the Monterey. That would be pretty well down on the eastward slopes of the Mr. Diablo range and extending from about five miles south of McKittrick, southeast, to beyond Sunset. I am acquainted with the seepages [1751] at McKittrick.

Having an outcropping, or a series of outcroppings, of asphaltum or oil sands revealed as they are along the western side of the San Joaquin Valley at intervals, for a distance of 30 miles, it would not be a safe geological assumption that oil will extend out at right angles from the range, a distance of fifteen miles, or one-half the length of the outcrop on the range, unless said statement was qualified by a detailed knowledge of all of the elements and conditions which might come in to upset any such statement in a broad way. The width of the oil formation does not always have a direct relation, geologically or practically, to the length of the outcropping found along the range of mountains.

After taking the situation as it existed along the west side, Kern County, with seepages at various intervals, and outcroppings of sand, from McKittrick to Sunset and in between, and after taking into consideration the geological surface structure, the Elk

Hills, the Buena Vista Hills, the McKittrick Hills and the entire surrounding country, I would not agree with the statement made by Mr. Veatch, that a geologist, in 1904, who did not conclude that the Elk Hills were valuable for oil did not know his business.

It would not be possible for him, in 1907, after having made an examination of that territory to have placed himself in the same position as to the conclusions I might draw that a geologist in 1904 would have reached, because there are a number of factors within our knowledge of West Coast geology which have been developed within the past few years, and as many of the fields have been developed, much scientific data and knowledge have been gained, and unless a man had all of that at his command he might not form the same opinion.

It would not be possible for a geologist to go into the [1752] Elk Hills in 1912 and entirely eliminate from his mind all impressions that had been made by wells sunk since 1904, by discoveries made since 1904 of which he has knowledge, and reach a conclusion, as a mental process, that would be the same as if he were there in 1904, utterly ignorant of anything that has taken place since that time. I am not aware that geologists attempt to do that.

Explaining a little more in detail as to the migration of oil at the close or following the close of the Monterey period and immediately after the uplift of the Temblor Range, I will say that the deposition of the beds of the McKittrick formation is marked by gravels and sands at the bottom. Above this are

the shales and the clays and the surface soil. The first migration of oil was upward and into the sands of the McKittrick formation. With the slow tilting of the beds, the very gentle angle of deposition between the McKittrick beds and the more steeply dipping beds of the Monterey underneath—on this gentle angle of dip the oil was inclined to rise, due, principally, to two reasons: The presence of its gas, the natural porosity of the beds through which the oil could migrate to a higher level, and the incoming of waters in the great depths further down the dip. As these waters encroached upon the sands they drove the oil to the higher levels and crowded an accumulation of oil in the gentle dipping beds of the McKittrick formation on the edge of the valley. The upward migration was so strong, the hydrostatic pressure and gas pressure so great, that considerable amounts of oil reached the surface and exuded in the form of what we call live seepages. The ultimate result of such a process was to take away from ground a short distance from the edge of the valley the oil which was present and to accumulate it in higher grounds on the very edge of the valley or close to the contact between the McKittrick and the Monterey formations.

In the formations in which the petroleum has migrated [1753] the water would take their position. In other words, there is a place in the monocline where you could extend or project the pro-producing sands and by drilling a well you would find the same sands which are productive high on the dip and at

the place where they were struck would be found to be filled with water.

That has been done in a great many instances to my own knowledge. After the uplifting of the beds of the Monterey there would be considerable migration within the bedding-planes of that formation themselves. It would be due to the natural lifting power of the oil, itself, due to gas, to the partings in the shales and to the pressure of minor amounts of sand. And the water would have an effect in the Monterey formations the same as in the other.

When I stated that there was an unconformity between the Monterey formation and the overlying McKittrick, I meant that "unconformity" is a term used to describe a discrepancy in the dip between two formations. Usually formations are of different age, of different composition, of different physical appearance, and represent an interval in time; in other words, after the lifting of the Monterey and before the deposition of the McKittrick formation, there was an interval of time and this interval was marked by the discrepancy called unconformity.

It is only relatively possible to determine what that interval was. It was a long interval.

There is a small unconformity near the top of the McKittrick where the Tulare is present, caused by the period of uplift and disturbance which began in Tulare time and was completed about Tulare time—which means that the beds which followed later on, the depositions have an unconformable dip with those older beds of the same formation, the Tulare.

There was a change during the Tulare period, itself. That is the time at which this uplift which creates the topography [1754] of the Elk Hills and Buena Vista Hills took place. That uplift is the same one that carries all California and involves the same beds; it is contemporaneous.

In the territory immediately northeast of the overturned anticline at McKittrick, the migration of the oil would be towards the west and towards the high ground during the period after the tilting of the Monterey beds and while the McKittrick beds were being deposited, or after they had been deposited. There would be a migration towards the Midway at that point, towards the high ground towards the west, no matter what direction that might be.

Mr. A. C. Veatch's statement was evidently founded on just half the story, when he testified in that part of the record, which reads as follows: "Q.—By Mr. Mills: Now, in the case of the Elk Hills, have you made any examination of those Hills with reference to their possible oil bearing value? A.—I have. Q.—What conclusion did you reach as to the oil character of the Elk Hills" A.—That they are oil land. I may say that my investigations were directed primarily to the determination of the conditions existing in 1904, and the conclusion is predicated on the evidence which existed at that time. In a general way, to outline the proposition, there are a series of porous beds and associated clays which are well designed on the one hand to afford a reservoir for the oil and on

the other hand to prevent undue leakage, which may be traced for many miles along the flank of the Temblor Range, the east flank in this case being the important one for this question. In that area there are seepages, which have been there from the beginning, which extend for a distance of over thirty miles, showing the persistence of the oil saturation in these various layers."

"Q.—Are they exposed at all in any way, those beds? A.—Yes. Q.—Whereabouts. A.—They are exposed on the east flank of the Temblor Range and may be followed there for a great many [1755] miles and the porous character readily determined. Now, taking this distance of seepages or (fifteen) thirty miles, which is, I might say, greater than that, but that is an area that is adjacent to this that is easily shown, it shows an impregnation of the oil strata extending at least seven and a half miles from a given center," which he later changed to fifteen miles. "Applying this distance of fifteen miles from the outcrop, it includes the Buena Vista Hills and the Elk Hills, and the only question which could remain regarding the oil value of the territory outlined in this way would be with respect to the synclinal areas, the valley lying between the Elk Hills and Buena Vista and McKittrick Hills and the valley lying between the Buena Vista Hills and the outcrop along the front of the range. Both the Buena Vista Hills and the Elk Hills fall within the proven area, from geological determination."

To make a statement that because of distribution

of oil over a number of miles it must necessarily go to a number of miles in other directions, is exceedingly unwise and lacking in caution, and if it were followed up by drilling, such as we have had to do upon our own opinions, it would be apt to be very disastrous. He forms an opinion, apparently, upon just half the evidence at hand. It is just such an opinion as is formed by the ordinary developer of ground, who is wont to draw straight lines between two points, or who, in the presentation of his ground, as a possible purchaser or developer of the ground, places the ground in front rank because of its proximity to something else. Proximity is one thing. There may be a great many other—or, there are a great many other factors to be involved; a great many. The simple assumption that you have an anticline is only one element in a long story.

The assumption that you can place here a mathematical conclusion for distribution of oil, is exceedingly half the story. [1756] It might assist Mr. Veatch's conclusion to assume that the seepages are all of one time; though I would not personally consider it so, and they are not all of the same formation. By that I mean that they occur—seepages throughout the distribution which he has mentioned, exhibit about three different age horizons: An old one, the Eocene; and another one, in the Vaqueros, or Lower Miocene; and the third one in McKittrick time.

I don't agree with Mr. Veatch's statement found

in the record as follows: "Q.—You have heard it testified to in this case that one E. T. Dumble, alleged to be a geologist in the employ of the railroad company, defendant in this suit, and the late Josiah Owen, also alleged to be, by testimony introduced here, a geologist in the employ of the defendant railroad company, during times prior to December, 1904, were quite frequently in the vicinity of McKittrick, formerly called Asphalto, and one, at least, of these gentlemen, having made trips into the Elk Hills. Would you say, or do you believe, assuming these gentlemen to be competent oil geologists, that at that time, prior to December, 1904, and at that stage of development, they could have helped knowing the oil character of the lands in suit? A.—The geologic structure of the Elk Hills is so very evident—the hill, as explained before, is a structural hill—that any one a geologist standing at Asphalto would naturally and at once suspect the character of the fold. If that suspicion were verified by examination, as stated in your question, if the geologist had actually been on the ground, he could not have helped but know absolutely the anticlinal nature of the hill, and, from the development in McKittrick, must certainly have regarded it as an oil proposition." Because the witness has apparently followed his opinion upon the one condition, the one structural feature, a structural feature of an anticline known to be favorable and in proximity to oil. Such a statement, that is must necessarily be productive, is both [1757]

unwise and unscientific, because it leaves out of account all of the details of origin, migration, accumulation and historical geology and structural geology which might come in to upset the first assumption that the anticline would be productive. There are a great many places in California where an anticline is in close proximity to the field, but the anticline does not in its heart hold the place which could give to it a productive nature. The experiment has often been tried by those of whom we may say, "A little learning is a dangerous thing", and who have learned to observe that an anticline has been productive—they have tried to carry that to an actual observation in the field, and the result is a further contribution to our knowledge of geology in that you must know the whole story and not one element of the story, but all of the factors, every one of them, so far as the structure, so far as all of the earth's history is revealed by the formation of the neighborhood.

There are two important considerations in estimating an anticline. The first one is, what formations are involved in its building? Are you dealing with formations which are above the oil horizon or below? How deep is this anticline? Does it affect profoundly the beds of the neighborhood or is it a superficial structure involving comparatively recent beds without involving those of deep origin and birth? And, third, even though the anticline is composed of the right members, the right geological units, the right sequence of the beds, beginning with the generic se-

ries, whatever age those might be, the question comes and must be answered as to that may have happened to the occurrence of oil after its original distillation from the shales to prevent its accumulation in the anticline itself—what may have happened. Those are a few of the elements that are to be concerned with the anticline itself, with the fold itself.

The presence or absence of sand within or underneath [1758] the anticline would either favor or prevent the presence of oil. The distance of the original shore-line from the Elk Hills at the time of the deposition of the McKittrick formation would have a very considerable bearing upon the thickness of the sands underlying those hills. The sands which constitute the bottom and bulk of the McKittrick formation and which are the first to be deposited are deposited closest to the shore-line, and the shore-line is along the present foot-hills of the Mount Diablo Range, marked by approximately the contact between the McKittrick formation and the Monterey formation as they are differentiated and plotted in the distribution upon the map. The sands are deposited along that contact, and, as you go further east, less and less sands and more and more shales, and muds and silts. I refer to the map accompanying the bulletin of Mr. Arnold.

The presence or absence of water in a given territory is a very controlling consideration in determining whether or not oil could get into a given anticline.

From the general geologic features of the Elk Hills

it would seem that their structure involves the late and superficial beds, the upper Tulare and McKittrick and the underlying Monterey formations underneath these hills would still continue toward the west, if the Monterey formation is not uplifted and folded and bent underneath them, and that would seriously interfere with the accumulation of oil under the hills.

There are a great many instances that have come to my own personal observation, of anticlines apparently favorable for the accumulation of oil that have not proven so.

For the benefit of making it clear, and choosing something which involves all of the elements—I concede that—to make it clear and make it have some bearing, we can take the structure of the McKittrick front anticline. That is a favorable structure. This structure is a low-lying ridge of hills just north of [1759] Olig, out in front of McKittrick, looking towards the north. The structure is favorable. It involves the proper sort of elements, formation elements, which are involved in the Elk Hills; and yet it is not productive in an economic sense.

In addition we could take the small subsidiary anticline in the Los Angeles field. You have there a formation producing, of a similar age, the same physical constituents, the same appearance as the McKittrick formation. It is called there the Fernando formation, but it is the equivalent. You have the main dominating structure to the north, the productive one; and to the south, nearer the Rose Maria, there is another

anticline involving a little greater thickness of bed and later formations, and non-productive.

The anticline I have just referred to was discovered by drilling. The surface in that case, is level, but the actual drilling indicates the structure, and also some surface evidences are indicated by seepages.

At this time the witness, for the purpose of illustrating the position of the overturned anticline at McKittrick mentioned by him, drew a plat or diagram, which was offered in evidence and marked "Defendant's Exhibit 14".

The witness, continuing, testified as follows:

The production at McKittrick is within the anticline, within the structure itself. The wells at McKittrick have encountered sand. It is not possible to determine the thickness of sand beds, accurately, by means of wells. Because of the dip in the sands varying so greatly that unless it was known exactly at what angle the wells pierced the sands and making allowance for the inclination of the sands, you could not determine just how thick they were. [1760]

#### CROSS-EXAMINATION

of

W. H. OCHSNER.

I was born in Kentucky and am 34 years of age; attended the Kentucky University about a year and a half, beginning in 1900; was then transferred to the University of Wisconsin from where I transferred to Stanford University because I was interested in West Coast geology. I studied geology in

both Kentucky and Wisconsin Universities and under Dr. Branner in Stanford University. He was the head of that Department and is the profoundest geologist in California. If Dr. Branner and I did not agree on a geological problem, I would be inclined to concede to Dr. Branner a more correct arrival at the final judgment, generally. It would depend upon the problem.

On the expedition to the Galapagos Islands, I did the work on geology and some biological work on the living marine and land shells.

I took the degree of Bachelor of Arts at Stanford University and also Sigma Si, which was given me for the work I did in South America on that expedition. That is a Greek letter or sigma of an honorary society to which members who have done original work in any Department of science may be elected by the faculty of the institution.

During my time in the college I was in the field in the summer of 1907 for the Kern Trading and Oil Company at the salary of \$100 a month and my field expenses. I was rated as a geologist at that time and was employed in making an original map representing locations of all wells of a given district. I was able to determine, at that time, whether an oil well was actually producing oil or had been abandoned. I was fairly familiar with the general property of the K. T. & O. Co. in the West Side field. I don't know of any property they had in the Elk Hills. I don't know [1761] specifically about the ground which the K. T.

& O. held or owned at that time in 30-23 or 30-24, because the particular map I was working on dealt with the development of the McKittrick area, particularly, and did not deal with any other districts. I don't know of any property that that company had in the Elk Hills in 31-23 or 31-24. I believe they had some properties there. I don't know what they were, and they were never brought to my attention specifically, that is, they were never mentioned to me as particular holdings, describing sections or the locations of the grounds. The property they had in the Elk Hills would be in the odd-numbered sections. I never knew by what arrangements the K. T. & O. Co. operated upon the ground. I knew the legal title to the land was claimed by the Southern Pacific Railroad Company. I only knew that whatever leasehold the company was operating was confined in its area in the McKittrick field. I don't know and never thought of their operating in the Elk Hills. I believe it is due to the fact that the K. T. & O. Co. had interests in the Elk Hills that I went over there for the purpose of making a geological examination. I was sent there by F. M. Anderson who was practically the chief geologist for the field work of that company, and he told me, in August or September, to go over to that range of hills, I don't know that they were called the Elk Hills at that time, and see what I could find. He did not tell me how long to stay there. I was very much at liberty to use my own time, and perhaps ten days or two weeks were consumed in the trips

over that area. The K. T. & O. Co. paid my salary and expenses during those trips.

Mr. Anderson's predecessor as geologist for the K. T. & O. Co. was Mr. E. T. Dumble, who is the chief consulting geologist of the Southern Pacific Company. Mr. Dumble did not direct my operations, only in regard to a specific water problem that involved the wells in the neighborhood of what is now called the [1762] "Reward" property in McKittrick. He asked me to make an investigation of the possible origin of some encroaching waters. There was a small area or zone in there that was particularly affected by waters coming into the area, and he thought I might trace the responsibility to some particular well. I understood his request to do that to be a direction. That is the only time that Mr. Dumble had anything to do with directing my activities. I took orders chiefly from Mr. Anderson. I believe Mr. Dumble was Mr. Anderson's superior, and that Mr. Anderson got directions generally, from him. Mr. Dumble had his office in the group of offices maintained by the Kern Trading & Oil Company and, I suppose, by the Southern Pacific Company.

Mr. Anderson asked me to take the job, when I first was employed. I had not been down in the West Side field prior to that time. Never saw the Elk Hills; never saw the Elk Hills or any portion of the West Side field from Coalinga to Sunset before that summer. I had not had any field work before that time.

I first met Mr. Josiah Owen in San Francisco in

the offices of the K. T. & O. Co. after I became connected with that company, probably in June, 1907, and when I said in my testimony that I knew him well, I referred to the time that I knew him subsequent to the summer of 1907 rather than at the time I met him at Maricopa. I did not know him very well at the time I met him there. In the fall of 1907 I was transferred to the Associated Oil Company at the salary of \$125 a month and my field expenses. I didn't re-enter the University that fall and desire to correct any contrary statement I have heretofore made. I worked for the Associated Oil Company until September, 1908, when I again re-entered the University and completed the work necessary to my first degree, which was obtained in December of that year, when I left the University.

I did not examine any properties in the Elk Hills in [1763] 30-23 or 30-24 for the Associated Oil Company during the time I was employed by them or at any other time. I was not in the Elk Hills from the fall of 1907 until the fall of 1908. My first trips into the Elk Hills were in the month of August or September, 1907. There were three or four different trips made in there for the Kern Trading and Oil Company. The last one was, perhaps, in October, 1907, I cannot say exactly. I originally formed my conclusions respecting the Elk Hills from the work I had done there. I met Josiah Owen at Maricopa, in July or August, 1907. I had seen him a number of times before that. He often visited my headquarters in the

Kern River field. I would have no hesitancy about the correctness of my recollection as to the conversation I had with him at Maricopa relative to the Elk Hills if it should appear that just prior to that time he had made the statement that the oil-sands went out to the Elk Hills and the Buena Vista hills and that the horizon probably extended across the valley to Kern Lake. Mr. Owen was inclined to give his opinion freely to almost anyone who asked it. I saw nothing unusual or strange in his giving me his opinion in July, 1907, after an acquaintance of only two months between us, because I knew that we often discussed geological features—or we did discuss them; we discussed them all that day, particularly, we were together; and I knew that he was giving me what he thought, because of the discussion of certain private matters, relating to oil lands in which he was interested down near Maricopa. He didn't tell me that E. T. Dumble was interested with him in those lands. He explained to me that he had a backing of friends who were taking some oil ventures, but he didn't go into details of the method of obtaining the land or who his friends might be. So far as I know he was extremely friendly with Mr. Dumble and I believe Mr. Dumble received his geological reports, generally, on the country, the West Side country. Mr. Dumble, I believe, had charge and direction of the [1764] geological end of the work in connection with the Southern Pacific Railroad Company lands. I say that Mr. Dumble was inclined to give his opinion freely to

anybody that asked it because I was acquainted with a good many statements that he made to other people, to people operating and proposing to operate in the Midway field and in its neighborhood, McKittrick field, and I know that he was very inclined to make statements of conclusions on oil territory or proposed oil territory, and very often he would freely tell his judgment to such parties, and occasionally to strangers who asked him questions about his geological opinion.

I first formed an opinion of the Elk Hills as a possible or probable oil bearing territory as the result of my work in the fall of 1907. I made no written report to the Kern Trading and Oil Company of my conclusions as to the oil-bearing character of the Elk Hills or any portion of them. It is customary for geologists to give such reports. The reason why I did not make a report was, I presume, because the work became a part of a large map of the area, to which I contributed, and I simply gave it to Mr. Anderson as a part of my work. I believe Mr. Anderson discussed with me the conclusions I had arrived at. I think the matter was brought up a couple of times on my return to San Francisco from the field as a matter of conversation between us, on a couple of different days.

I didn't know at the time I was reporting to the K. T. & O. Co. my conclusions on the Elk Hills, that E. T. Dumble, chief consulting geologist of the Southern Pacific Company, was the owner of several hundred shares of the capital stock of the Eight Oil Com-

pany, which had holdings in those hills. I do not know it now. I never discussed that with Mr. Dumble. I didn't know at the time Mr. Owen talked with me at Maricopa that he was interested in locations of lands on the even numbered sections in the Elk Hills. While I was at work for the Associated Oil Company I met [1765] a geologist named W. A. Williams. He was field geologist for the Associated Oil Company. He followed my time. I think he entered the service of that company soon after my leaving it. I was the original geologist employed by the Associated Oil Company. If I might explain, the Associated Oil Company had a purchasing department, of whom the head was Mr. Benenfelt, with offices in the Wells Fargo Building. Mr. Benenfelt conceived the idea of having scientific help for his work and he asked me to give my time and services to him, for the consideration mentioned, and I took the Los Angeles district. I was assigned to the Los Angeles district. And I think that after my leaving the Associated Oil Company to go back to the university to complete my course, it was sometime after that Mr. Williams was appointed. That is as I know best the history of the thing.

Soon after my being employed by the Associated Oil Company, Dale Slusher and Robert Moran were employed as geologists by the company. Mr. Slusher had the Coalinga district and I think Mr. Moran had the Santa Maria district.

At the time I was employed by the K. T. & O. Co.

I had considerable experience with the geology of the Coast Ranges, and that is the key-note of all oil geology. I had not, specifically, had oil geology until I went to that company as an under-graduate student in June, 1907. I cannot agree with the statement that my opinion, at that time, after a couple of months around collecting data for the construction of maps showing the location of wells for the K. T. & O. Co., would be of much value in determining about the geology of the Elk Hills. I know more about oil geology now than I did then. I feel, in justice to myself, that I had a very good knowledge of the particular problem with which the Elk Hills were concerned. Each area in California is a particular problem. You may have a good deal of assistance from your experience in other fields, but each particular area is a particular [1766] problem in itself. Each one must be worked out in its details. I believe I could do that work quicker now, but perhaps not more accurately than I could then.

I cannot mention what sections I went to in the Elk Hills during either of the first three visits I made there, and can not now swear positively that I was ever on Sections 15, 30-23.

Here witness examined a map and said "I cannot say, definitely, that I was on Sections 15, 17, 19, 21, 23, 25, 27, 29, 33 and 35 of Township 30-23. I very probably crossed that ground in my work. I never knew the Section numbers and could not say, positively, that I was on there, but it is very likely I was.

I can say what the geological formation as to each one of those sections is, from generalization, from all my trips, but I cannot now recall whether Sections 15, 17 or 19 are on or off the anticline of the Elk Hills independently of any map.

An anticline is an upward bend in an otherwise horizontal strata of sedimentary beds. I didn't say that the Elk Hills was an overturned syncline. I don't know what an overturned syncline is; don't believe I ever heard of one. It is not generally used in geology that I know of, and if it is so used, I ought to know it.

I have met J. A. Taff, who, I believe, is on the geological staff of the K. T. & O. Co. I first talked with him yesterday. That was the first time I met him. I had some discussion with him as to a condition in the north end of the McKittrick overturned anticline; a discussion on the distribution of certain fossils in there and oil-sands. I think he passed over some questions to Mr. Lewers, counsel for the defendant, while I was on the stand, for him to ask me in the afternoon session of yesterday. I had not discussed those questions with Mr. Taff.

At the time I talked with Mr. Owen, in Maricopa in 1907, he asked my opinion on the Elk Hills and I told him that I had not [1767] completed my work there and did not know what to think. He then, quite freely told me that the Elk Hills were too far out to fill. That remark did not have any influence upon my mind in determining conclusions I subsequently reached as to the oil character of those hills, because, in the first

place, Mr. Owen was not a scientifically trained man, and was not a geologist in the full sense of the work, and I was concerned in working out the knowledge of it firsthand, for myself.

I don't regard it as taking considerable assurance on myself, as an undergraduate, with the limited amount of science I had at my command at that time, particularly on the question of oil geology, to characterize as unscientifically trained and not a geologist a man who at that time must have been upwards of fifty years of age and who the evidence shows was entrusted with the oil geology of a vast field for the defendant Southern Pacific Railroad Company and Southern Pacific Company, and whose work in the Elk Hills and in the McKittrick and Midway fields had earned for him some reputation among those who knew him well. I did not offhand and flippantly decide that question after meeting Mr. Owen once or twice. I knew Mr. Owen by reputation; I knew something of his training; I knew a good deal by hearsay as to his ability. I didn't know that he was entrusted by Mr. Dumble with the actual determination of the field work of that whole region, in those areas of land said to be underlain with petroleum, and I don't know that Mr. Dumble relied upon his judgment to a very large extent or that Mr. Dumble practically got the major part of his understanding of oil geology in California from Mr. Owen. I received very slight information from him as to the mineral character and geological structure of that region, generally. The fact is not pretty generally known that I obtained a great

deal of information on the subject of oil geology of the West Side field from Mr. Owen during his life time. [1768]

I was not subpoenaed as a witness in this case. Mr. McLaughlin, general manager in the field of their development work, of the Kern Trading and Oil Company, asked me if I would be willing to testify. That is the same Kern Trading and Oil Company that is the defendant in this suit. He asked me about three or four weeks ago. I met him in Fresno and my name was brought up in connection with the testimony of Mr. Dyer, who happened to be there that day. That was after Mr. Dyer had testified in this case. Last time I saw Mr. McLaughlin he asked me to visit Mr. Lewers, attorney for the defendant, and asked me what my fee would be in case I did testify. I told him that I usually received a fee of \$50 a day for work of this kind. I did not make arrangements with Mr. Lewers as to the fee. The mention of the fee was not brought up. I assumed that Mr. McLaughlin was acting on behalf of Mr. Lewers.

I cannot recall whether I mentioned my conversation with Professor Owen at the time I met Mr. McLaughlin in Fresno or not. I think I did, because we visited afterwards in the lobby of the Hughes Hotel and the matter was discussed, he brought it up again, and I think that was the time I mentioned it first. Mr. McLaughlin did not say anything to me about the previous testimony in this case to the effect that Mr. Owen had characterized the Elk Hills as

good oil territory and that my testimony on that point might become material. Mr. McLaughlin asked me something about my visits to the hills, when I was there and who was with me, and asked concerning the work and the opinions; and I think it was that time that I mentioned my conversation with Mr. Owen. I think the matter was brought around in this manner: At the opening of this case some one visited my camp near the Coalinga field and asked for me to serve in that case, and he made the statement to one of my foremen that I was acquainted with the territory, I was one of two men acquainted with the territory, and the other person [1769] was dead. I assumed that it had some connection with Mr. Owen, and I think Mr. McLaughlin asked me if I had been summoned or if I had been asked before to testify, and I said that I had not, and related the incident, and I think that is what brought about the conversation, the story of the conversation between Mr. Owen and myself. I think that is the way it came.

Mr. McLaughlin did not express his entire approval of the testimony which I proposed to give in this case. He said, "Call on me the next time you come to San Francisco. I would like to see you," and we met and the matter was talked over, and he then asked me to see Mr. Lewers. I told Mr. Lewers what Mr. Owen told me at Maricopa in 1907.

I think the two particular discussions I had with Mr. Owen dealt with the northern extension of the

Midway field from the then producing area and the other problem discussed or mentioned was the northerly extension from McKittrick toward Coalinga. I don't know how far he might have gone in that discussion with me. I can repeat one or two statements that he made that I remember very well, as I respected them on account of what has happened since and what I know. He discussed the great possibility of the west side, and he mentioned the possibilities of the Buena Vista Hills, and he made this remark: "If there is a spindle top in California it is on top of the Buena Vista Hills." By that he meant that the dome was filled with oil. He did not mention in connection with the possibilities of the Buena Vista Hills that he had found an oil seepage or cropping of sand in section 11 of those hills. I have not seen that seepage myself.

He did not mention an oil seepage in the northwest quarter of Section 32, 30-24 in the Elk Hills. I have been in the Buena Vista Hills and from all that the eye can discern they are very similar to the Elk Hills in structure and formation and they are uplifts of the same geological period. If there is an oil [1770] seepage or cropping of oil-sand in Section 11 in the Buena Vista Hills and the Elk Hills have a similar cropping of sand, I would, as a geologist, say that there was a suspicion worthy of studying as to the oil character of the Elk Hills, and that suspicion would be aroused upon standing upon the McKittrick front and looking up to those hills, and

would warrant further investigation. I think that even as early as 1901, a competent geologist standing on the McKittrick front and looking off across the valley to those two groups of uplifts or hills, and who knew of outcroppings and oil seepages in them and know of the state of development would at once have his suspicion aroused as to the possible oil-bearing character of those hills. If those outcroppings existed they would have a great bearing in my mind upon the possibility of the oil-bearing character of the hills. I don't think that with a knowledge of the outcroppings of oil sand in the Elk Hills, known to exist prior to 1904, when considered in connection with the anticlinal structure of the hills and with the development along the McKittrick front and down along the line of the eastern flank of the Temblor Range, a competent geologist would, without further study, be warranted in advising an investment of money for the purpose of attempting to produce a paying oil property there. I think that an opinion which involves the expenditure of money should have complete study, should be concerned with not only seepages but all the geological data that might be gathered from a long and detailed piece of work. Where the anticline is as clearly defined as in the Elk Hills we have the elements of an ideal spot by an anticlinal structure. Assuming that there is a cropping of oil-sand showing at some date in the past the waste of bituminous matter in the Elk Hills, and taking that assumption into consid-

eration in connection with the correlation of the oil-sand outcroppings along the McKittrick front and down as far as Sunset where the valley makes a contact with the Temblor Range, I would [1771] say that the facts would be a strong element in favor of warranting a competent geologist to advise a man to invest money there with the hope of producing oil property, and I believe many competent geologists have advised the investment of capital on less evidence than that.

A cropping of oil-sand is a beginning of first-hand evidence that petroleum is present in the neighborhood and it is the first step in the study. I would call forth the first suspicion, the first interest. A cropping of oil sand which shows unmistakable evidence of having been impregnated by petroleum or bituminous matter is absolute evidence to the mind of any competent geologist that if oil does not exist in that formation now, it must have existed at some time in the past. That is unequivocally true.

Without any knowledge of the existence of an oil seepage at all, the mere sight, six miles away, of the uplifts on that plain, would have been sufficient to arouse the suspicion of a competent geologist as to the oil-bearing character of the Elk Hills. His suspicion would have been immediately aroused without any investigation whatever.

In my testimony of yesterday I stated that there was more than one oil-sand from the McKittrick to the Sunset field. that there was an Eocene, Vaqueros

and McKittrick. It is true that the Eocene formation is up west and northwest of McKittrick near Frazer's Spring. It is not true that the Vaqueros is on the west side of the Temblor Range and does not touch the east side at all. The seepage is on the east side at Temblor, northwest of McKittrick. From McKittrick to Sunset there is only one oil seepage in time and that was the McKittrick time.

I respect Mr. Veatch to the very highest as a scientific gentleman of high standing. I have had the pleasure of working over some ground covered by the results of his previous professional [1772] work—one, particularly, the Wyoming ground—and it was a fine piece of geological work, well done, by a good man. I have no way of knowing that Mr. Veatch did not have as much knowledge of the oil region concerning which I have testified, as I have myself.

I kept field notes on the work I did in the Elk Hills in a small notebook, which must be in the possession of the Kern Trading and Oil Company. All my notes were turned in with my leaving the service of that company.

When Mr. Owen made the statement to me at Maricopa in 1907, that when oil would be discovered in the Buena Vista Hills they would find another spindle top, I at once understood that he meant a dome-shaped structure filled with large gushing oil, or oil which would produce gushers in great quantities. That statement of his seemed to be inconsistent with his statement with regard to the Elk

Hills when the relation of the two hills was taken into consideration and seemed to realize the inconsistency, and by way of explanation made the statement that the Elk Hills were "too far to fill", apparently to carry to me some process of reasoning by which he must have arrived at that conclusion. I would assume that he would have concluded that the Elk Hills would also be a spindle top if it was not "too far away to fill." In other words, it was my understanding of his remark that if oil was found either in the Buena Vista Hills or the Elk Hills it would be a large producer, the same as the Buena Vista Hills, if oil was discovered at all in it; because he recognized the anticline, I believe he knew that it was an anticlinal structure—and they are very eagerly sought after. His opinion on the Buena Vista Hills was certainly verified. Eliminating from my mind anything that I may have heard about the wells which may have been brought in in the Elk Hills, I would concur in Mr. Owen's opinion, from my knowledge gained of those hills prior to 1910, but I think, in my discussion, I felt that there might be scattered amounts of oil, that is my [1773] personal opinion. I attempted to make that clear, in the discussion of what happened to the oil from its original distillation to its present reservoir and the process of water infiltration. I originally concurred with Mr. Owen that if oil were found in either one of those groups of hills, it would be in gushing quantities. I did this

on the assumption of his reasoning before I made my own study.

I formed my opinion in 1907 that the Elk Hills did not bear petroleum. I was asked to meet Mr. Fried and Mr. Dyer at Bakersfield, in 1909, for the purpose of going into the Elk Hills and making an examination. The particular locality to be examined was not mentioned and I never knew where we were going until we reached very close to the foot-hills of the Elk Hills themselves. I made the remark that I could have saved the time and the effort if they had told me where they were going. And they insisted, then, on going to see this alleged seepage, something I had not seen before in my work there. My former conclusion was based on all the data available at that time, which was to me sufficient. If I had overlooked any seepages or croppings of oil-sand at that time my judgment would have been erroneous or based on insufficient information. The ground had been considerably opened up by some developments. There was a tunnel there. I examined the occurrence to see just what its appearance might be and I came to the conclusion very rapidly that it was an organic occurrence and not an oil seepage by merely looking at it, from the relation between this formation and the close and impermeable strata exposed underneath. I did not burn it nor test it with chloroform. The usual tests given such matters by geologists are for things which are uncertain in nature. The occurrence there was so self-evident in its appearance that

its character was easily apparent to me and I did not think it was necessary to go to any further examination. I felt satisfied, with the occurrence in fresh water beds, its [1774] relation to the rest of the hills geologically, and the series of facts which I stated yesterday, in my testimony, that it was vegetable matter. As a scientific man, I don't believe that I might be mistaken in my conclusion as to the origin of that sand, notwithstanding the fact that other witnesses have testified to tests which tended to show to the contrary. The evidence which the question has rehearsed could be taken in another direction just as easily as to indicate the presence of petroleum. The presence of gas, illuminating gas, the presence of an odor, is not suggestive—it is not an absolute diagnosis—that the condition was of petroleum, the occurrence was of petroleum. The vegetable matter of which I have spoken was put down, deposited, at the same time the main bulk of the material composing the Elk Hills was deposited. I didn't see any evidence of sub-saturation of any kind. I didn't see what I would call a saturation of the sands. There is a presence of what you might call lignitic material, this plant organic material, distributed through those sands and discoloring them; but I would not call it a saturation—in the sense of liquid. I assume "saturation" refers to liquid.

I am sure the examination I made of the scientific aspect of that exposure was far more conclusive

than the evidence given by Mr. Youle to the effect that as a result of the chloroform and fire test of the oil sands he found in the Elk Hills, he found bituminous matter, gas, and that the Elk Hills were full of evidences of gas, that they had been burned with gas all over, that there was evidence of a very volatile oil and evidence of an oil that might not have much asphalt base. Made under the conditions indicated, bitumen does not always indicate petroleum. The distribution of these vegetable matters throughout the San Joaquin, the presence of these gases—with which I am very familiar through that valley—in this formation, all indicates that the material is of plant remains rather than of petroleum residue. [1775]. The location of a producing well on the Section cornering with Section 32, 30-24 would have nothing to do with the question as to whether that was vegetable matter or not, even though it might be a large producer. The existence of such a well would not have any influence in determining the question of whether I made an error in my judgment as to the origin of that stain on the sands in Section 32.

The occurrence of a well, a producing well, would not change the opinion as to the origin of this material. If I may be allowed to explain: An oil-sand there, if it were a typical outcrop, would be revealed only by a breaking or a thrusting of the formations—some method of fracturing by which the oil might start forth and reach the surface. The deposits of

organic material indicate a flatter condition, that is, a blanket or a small skin of material laid down above, unbroken—I mean horizontal—impervious, close, through which there is no breaking, through which there is no fracture, and beds which have so little degree of consolidation that no fracture could possibly take place through them.

Coming back to the trip into the Elk Hills with Mr. Fried and Mr. Dyer, I will say, as I remember it, that they concealed from me the fact that they were going into the Elk Hills until we got right there. As I remember, we were to make a trip into the Midway; I was not given specific directions, as I recall them, and when we got close to the Elk Hills I was informed that we were going to them first. I would not say that the trip into the hills was only a casual trip. We were to carry on a considerable bit of examination in the Midway field, and this was one of the areas that they had in mind as the first to be examined. I don't know of any purpose they had in concealing from me the fact that they were going into the Elk Hills. I believe I told them that I had examined the Elk Hills in 1907, and notwithstanding that, I [1776] still went with them to advise them whether they should locate lands there for petroleum. They said they wanted me to go, that there might be something that I had not seen and this seepage had been reported to them; wanted to know if I had ever seen any. I said I had not. I think I spent nearly all day in the Elk Hills. If I remember rightly, we got into

Maricopa that evening and that was the only piece of work we had accomplished. I did not take any of the material away to test it. I think Mr. Dyer was mistaken when he said that I did, because I don't recall having carried away any specimen or having made a test.

If I had known as a fact, in 1904, that in the well of the Associated Oil Company on Section 24, 30-23 there was an oil formation of four hundred and ten feet existing, and in the well of the same company in Section 26 of 30-23 an oil formation of three hundred and sixty-two feet existing, and that the oil from that formation is more than 25 degrees gravity, and that also there existed an oil formation of three hundred and fifty feet in thickness in the well of that company on Section 30 of 30-24, and that from the last named well there had actually been produced six thousand barrels of petroleum of 28 degrees gravity, which, before the well was closed down, was flowing at the rate, as shown by the gauge, of four hundred and six barrels per day for two days, it might have caused me to modify my opinion as to the oil-bearing character of the lands in this suit. In explanation I will say that the features as presented in the wells is a condition that I have predicted early in my testimony here and that I would have predicted for the hills, that is, the presence of oil distributed upward through a considerable thickness of shales without the presence of the concentration in a definite sand; and there would be a showing of oil. But the con-

clusion of an upsetting of my original opinion would have to be based upon further statements. The showing of the well, its rate of flow, and its development of some [1777] oil, is not a safe evidence of what it will produce, whether the well will be an economical well or not. If a hundred barrel well in the Elk Hills were a paying well it would modify my opinion as to the value of the Elk Hills as oil territory.

The oil in the Elk Hills is found in the McKittrick beds and migrated from the diatomaceous shales of the Monterey underlying those beds.

I don't entirely agree with the statement of Dr. Branner that the Elk Hills are situated at the point where the Monterey shales occur in the thickest strata. The history of the Monterey shales indicates that they are of moderately local occurrence; that the fauna or flora which filled them up in their organic constituents were of forms inhabiting moderate depths; that the whole valley floor was not laid down and as you go eastward you expect a thinning out of the Monterey. Just how much that would be thinned out under the position of the Elk Hills no one knows or can say, but the features are in favor of its thinning less than the measure which Dr. Branner reports.

It is my opinion, as a geologist, that the diatomes are deposited in moderately shallow water. I don't believe that I am wrong about it. I am not an expert on diatoms, but we will take for our informa-

tion the men who have made a study of that, and there are published records of observations of men who are qualified to state just what depths of water are most favorable for the deposit of diatomaceous material. I would call from three hundred to three thousand feet shallow water.

The whole San Joaquin Valley represents an internal arm of the sea. The borders of that valley represent the Mount Diablo range on the west and the the Sierra Nevada on the east with a gentle trough or dip from the west towards the east and from the east towards the west and the shallow deposits would be along the edge of that valley. [1778]

My conclusions regarding the Elk Hills were before developments there and I have no reason to change my opinion. I tried, in my testimony heretofore given to make my statement clear that there would be small amounts, that there might be a chance to have small amounts of oil to be caught under the Elk Hills area. I said that there was oil in the beginning of the Elk Hills anticline as exhibited in the McKittrick front. The Elk Hills structure, anticline, begins in a little fold from in front of McKittrick which has producing wells upon it.

I have tried to make clear that there might be some oil, and I have made use of the words "scattering amounts." Assuming that there have been large quantities of oil discovered in the Elk Hills, I would be wrong.

I did not mean to give the idea that I concurred in

the opinion of Mr. Owen that it would be another Spindle Top and that the oil would be found in great quantities in the dome and that gushers would be produced. As to what I meant by saying "scattering amounts" of oil would be found, I will say that the opportunity for filling the Elk Hills, or the region over there, is to be obtained from two directions: First, the monocline of the Monterey shales in the Midway hills dipping easterly or northerly towards the Elk Hills. The other point of direction from which oil might come would be from the McKittrick structure. The McKittrick structure developed a complex overturned fold and developed the oil in the shales themselves. The McKittrick production is drawn directly from the anticline involving the Monterey and Santa Margarita beds, their equivalent. In addition to that, these sharp angles on the east side indicated very little oil would pass easterly; some might, some did. It was indicated by the occurrences of oil in front of McKittrick and the production there. I referred in my conversation directly to three sections we named and described, and three particular wells, the results [1779] of those wells and the results of the wells on the top of the anticline of the McKittrick front, which is the beginning of the Elk Hills structure. I explained that the Elk Hills as a structure is leaving the proximity of the Monterey at a constantly increasing angle; they are becoming more and more remote from a chance to obtain petroleum in large quantities. With

relation to the other direction of its possible impregnation of petroleum, I referred to the conditions, first, of the area in the great valley syncline over which the Elk Hills were deposited, and the migration of oil to the westward to arise in the monoclinal seepage on the west side of the valley. Then I referred to the water filling the lower levels. I also made a point of the changing conditions from the sand on the west to the sandy shales and lack of sand on the east; also, the position of the Buena Vista Hills as drawing oil directly from the monocline of the Monterey and McKittrick formation; also, the condition of water in the first syncline between the Buena Vista Hills.

The Elk Hills and the Buena Vista Hills were uplifted during the Tulare time and before the close of that time; this accounts for the unconformity of the later Tulare formation and the other Tulare formation—the difference between the structural Tulare and that of a plain deposition of Tulare.

There was a shore-line against which the McKittrick formation was thrown. It was approximately the contact of the McKittrick formation and the Monterey formation on the western margin of the San Joaquin valley. Beginning with Section 11-11 north, 24 west—on the preliminary geologic and structural map accompanying Bulletin 406, and following the line in a northwesterly direction, which marks the divisional line between the McKittrick on the east and the Monterey and Santa Margarita on

the west. That would be approximately the old shore-line and it is approximately the line of seepage, too. It would be west [1780] of the Spellacy hill in the contact between the McKittrick and the Monterey. It would also be about two miles west of Midway and continues on north. The next place would be Crocker, and make a line from the east of Crocker near the bench mark, 1410, shown on this map, and then in a northwesterly direction up to McKittrick. The main portion of the Mount Diablo Range, called the Temblor Range, was above the shore-line when the McKittrick was formed along that shore-line. There were certain low depressions, arms of the sea, which went back of the shore-line, which I have described, in which the McKittrick was formed, otherwise it was formed below that shore-line. If the McKittrick is found hundreds of feet higher up than this shore-line it indicates some local disturbance which has elevated that part of it. I don't believe that it is generally conceded by geologists, who understand the West Side, that the McKittrick was laid down above the Temblor Range, was elevated above the sea. I might modify some of the features of the shore-line I have indicated, but there is plenty of evidence that it existed approximately at that location.

I am just as positive that, as a geological fact, the Temblor Range was in existence as a topographic feature before the McKittrick was formed as I am of anything else that I have testified to concerning geology. If the Temblor Range was not in existence

at the time the McKittrick was laid down there would be no shore-line and no monocline up to the shore-line, and would destroy one element of the discussion why the Elk Hills would not be a place for the accumulation of petroleum. The monocline theory was one of the elements of my conclusion. The monocline was formed by the lifting of the Monterey beds in the Temblor Range where the McKittrick formed the contact along the shore-line I have mentioned.

It was created by the rising of the Temblor Range and sharply dipped eastward into the Monterey shales. Prior to that[1781] uprising there was no monocline there involving the two formations. I have stated that the over-turned anticline was opposite the syncline and that there is an anticline beyond the syncline, which is a continuation of the Elk Hills structure. I presented my investigation far enough to ascertain that in the continuation of the Elk Hills structure, the anticline I speak of, producing oil wells exist now. I am satisfied that the Elk Hills contain petroleum and the competent geologist might or might not have so concluded in 1904 with the evidence then in hand. I don't know what he might say. With the development as McKittrick and the surface conditions heretofore described, a geologist would have said, in 1904, that the Elk Hills was a favorable spot for the accumulation of oil. That would be the beginning of his belief.

I don't know that I have said that the statement made by Dr. Branner in his testimony, that a geolo-

gist who failed to form the opinion that the Elk Hills were oil in character and that there was an oil-bearing zone underneath the hills after he had observed the general indications found in these hills and in the McKittrick district, did not know his business. To a geologist, the details in evidence there would go a long ways towards an opinion in favor of the Elk Hills being oil territory. It would be a start in his work. On less evidence than exists as to the Elk Hills being a favorable spot for the accumulation of petroleum, I have wild-catted a well or wells, and on no less evidence than existed in the Elk Hills in 1904, I have advised the investment of money in the hope of producing paying oil property. I refer particularly to the Kettleman Hills where I found an ideal anticlineal structure but no seepages within a distance of about seven miles of the Kettleman Hills. There were seepages within a closer distance than that of the Elk Hills. We have drilled about 4200 feet in the Kettleman Hills and found no oil, but I know that we will find it. [1782]

On the evidence of a seepage seven miles away in the main range and with nothing but the anticlineal structure of the hills, I, as a geologist, believe that one would be justified in expending money for the development of a paying oil property in the Kettleman Hills and also in advising others to invest money. There is no development in the Kettleman Hills except my own; that is prospect development. Three of us are in there making a test of the Hills.

There was no development when we went there. We have expended about \$140,000 in development. The relation of the seepage I have mentioned in the anti-clinal structure is the only evidence of oil in the Kettleman Hills.

I expect to find oil in the well I am drilling in the Kettleman Hills and will go 5,000 feet and further if necessary. That would be dependant upon physical conditions. If the physical condition was satisfactory and I had the money to do so, I would probably go as far as I could go, probably 5,500 feet and if I struck oil at 5,500 feet in commercial and paying quantities I would regard the venture as successful; but I would not regard it as a pumping proposition. I don't believe a pumping well of that depth would have oil in paying quantities and it would not be practical at that depth. I am assuming, and I have plenty of evidence, that my well would be a large, flowing well if the gas pressure was held and conserved and properly brought in, and I would expect the well to flow for at least two years time and I would want to get an average of at least one thousand barrels a day of a gravity from somewhere 36 or 38. If that were the case I would expect it to be practical. I am able at this time to estimate pretty nearly within one hundred barrels a day, the amount of oil that I would get there. I am satisfied that I would get several hundred barrels a day.

Referring to my former statement that I had made other ventures in the oil business besides the Kettle-

man plains, I will [1783] say by way of explanation and in justice to myself and in regard especially to the conclusions in the McKittrick district, the relation of the Elk Hills to the McKittrick district, that I have made a number of ventures based upon the sort of arguments that were the foundation for a conclusion on the Elk Hills, each one has been satisfactory, each one has worked out exactly according to its prediction, each one has been a safe bet based upon the geologic fundamentals of my argument against the possibility of the Elk Hills.

#### CROSS-EXAMINATION

#### OF

W. H. OCHSNER

In explanation, in detail, of the situation with reference to the Kettleman Hills as compared with the McKittrick and the Elk Hills district I will say that the Kettleman Hills form a large anticline, the part of the anticline to the north known as the Coalinga anticline and producing at that place. In dealing with the Kettleman Hills problem we are dealing with a wide distribution of very old beds. The formation in this case from which the oil was originally drawn was the organic shales of Tejon and the oil-producing zone is that of the Vaqueros. The study of the Mount Diablo Range on its eastern flanks reveals a great distribution and a uniform sequence of beds from the Tejon up through into the Etchegoin. You have here a great widely distributed formation dealing with old formations. As you go into

and deal with old formations you become involved in more and more universal conditions. By that I mean as you deal with the deposition of organic shales of the Eocene time or sandstone and Vaqueros time, you come to a wide distribution of those formations. As we go further and further back into the older formations you deal with more and more universal conditions, a wide-spread deposition of a single unit. [1784] All of the beds in the tertiary formation, involving the oil formations at the bottom of the Mount Diablo Range and those which are producing at Coalinga, dip towards the Kettleman plains and the Kettleman Hills in one great and continuous anticline. The sequence of the beds is so continuous, so uniform and so unaltered in its whole distribution that it is reasonable to assume that it continues over a very great distance. The Kettleman Hills, the formations exposed, are the Paso Robles and the Etchegoin. The relation of these formations to the monoclinical beds of the Mount Diablo Range is to be worked out on the condition and distribution of the fossil faunas. It indicates that the Kettleman Hills is a part of a great uplift involving the whole thickness of the Tertiary beds from Etchegoin and Paso Robles down and including the oil measures. Therefore if an uplift of that nature takes place so profound, involving old formations of wide distribution, it is natural to suppose that the whole sequence is involved and you are holding within the heart of the Kettleman Hills the shales that the petroliferous Va-

queros sandstones above have. That, in general, is the method of working out the conclusion.

The formation composing the Kettleman Hills is of a much older period of time than those composing the Elk Hills. The disturbance in the Kettleman Hills indicates a profound disturbance involving the whole sequence of a great anticline and gentle syncline between its monocline on the west and allow a structure such as the Buena Vista Hills to intervene. On the other hand, the Elk Hills deals with a comparatively local condition involving much more recent, unconsolidated beds, and a complex structure.

The Monterey, in its northern distribution, probably begins just north of Devil's Den and continues down through the West Side and its last appearance is about Salt Creek or east or southeast of San Emidio Range, where it thins very much, becomes sandy and plunges into the valley floor. Since testifying [1785] this morning I have had occasion to refer to the bulletin mentioned in connection with the deposition of the Monterey shales. As to the fauna, I made a mistake in the bulletin as to the actual occurrence, but I have found it in another book, bulletin No. 268, of the United States Geological Survey, entitled "Miocene Foraminifera from the Monterey shales of California with a few species from the Tejon," by Rufus M. Boug, page 12 of which reads as follows:

"The majority of forms identified are present in abundance today in the North Atlantic ocean. (See

list on pages 13 and 15.) And the writer is confident that the conditions there today represent pretty well the oceanic temperatures and depths of which the California beds were laid down. These fossils were presumably deposited in waters the depths of which were less than five hundred fathoms." That indicates shoreline conditions.

In answer to the question as to what the erosion material is composed of which forms the base of the McKittrick near the shore-line, I will say that it is the base of detrital material taken both from the Monterey and from the granitic material and crystalline masses which form the heart of the Temblor Range. That, in my opinion, is evidence of the uplift of the Temblo Range prior to the deposition of the McKittrick. I say this because the material which makes the McKittrick, the heavy, coarse material at the bottom, which can be recognized in its character, must have been taken from a higher level. Those higher levels were composed of Monterey and the crystalline formations. I believe there have been changes in the position of the Temblor Range since the original uplift. These changes are going on at the present time, very slowly.

I received some assistance from F. M. Anderson during my field work in 1907. The specific instance in which I received that assistance was on the McKittrick antiline. We spent some time on [1786] the structural conditions and distribution of the formations and petroleum in the McKittrick field. At

that time Mr. Anderson had done a great deal of work on the geology of the Coast Range and I consider him, by virtue of his long training, his long experience and continuous study, the geologist most conversant with the geology of that range with special reference to its oil, and I entertained that opinion in 1907 and for that reason I consulted him at the time mentioned.

Since 1908 my work has covered all of the important fields, now producing fields, in the state of California, beginning with Los Angeles on the south, the Ventura fields, the Santa Maria, the Midway-McKittrick, and Coalinga fields.

I was called back into the McKittrick field on a number of missions. For some time I did advisory work for the Reward Oil Company. They were old producers there and were attempting to enlarge their production—rather, increase, extend it—and I went back there for two or three other investors, made examinations. I also went back on my own account looking for ground as a possible venture. On some of these subsequent trips I made additional trips into the Elk Hills. I think I made two trips subsequent to the trip when I went in company with Mr. Dyer and Mr. Fried. Mr. McReynolds and I were in there two or three times together, I think.

I went back over the ground with the idea that there might be something that I had overlooked, and I realized that I had better knowledge of conditions, better knowledge of oil fields, of California, that I

had gained by experience and by observation, and I wanted to see if there was anything in there which really I had overlooked, anything which would change my opinion of the matter; and it was about the time that we were quite certain that the No. 1 well of the Madsen people on Section 10 of the Buena Vista Hills would be a producer. The gas, I believe, had [1787] been encountered—a heavy head. The indications in this well were that it would be productive, and I wanted to be sure that I had not overlooked a chance in the Elk Hills. I came to the conclusion that I did not wish to risk my money or that of my friends in there. I would not at that time, or at the present time, advise an investment of \$147,000 in the Elk Hills as I did in the Kettleman Hills because there was not enough evidence then and there is not enough now to make me feel that an investment of that size would be merited.

There are differences in the formations in the Elk Hills and Kettleman Hills that would affect drilling. The Elk Hills are composed of essentially soft clays and shales, unconsolidated, and the Kettleman Hills, on the other hand, are composed of sandstones and shales with quite a considerable degree of consolidation. The difference is in favor of the Kettleman Hills on account of the ease of drilling, the way in which a hole stands up, and the permanency of a hole once it is made.

I have seen a great many of the drillings in the McKittrick beds, especially in the Midway, and ob-

served them; but as to a very considerable thickness of the Tulare, I don't know that I have a first-hand knowledge of the wells piercing them. The Midway field offers very great obstacles for drilling, merely because of its soft, yielding and shifting formations. I have made the statement before this, as a comparison between the Kettleman Hills and the Midway field, that a well of five thousand feet in the Kettleman Hills was as easy to drill, or perhaps easier, than one of half that depth in the Midway field. The Midway field represents a typical district for pipe troubles, casing troubles.

I have no water troubles in the Kettleman Hills. The drilling in the McKittrick formation, in the Midway, and drilling in the formations of the Tulare and McKittrick in the Elk Hills, would be very similar; perhaps the difference that the formations [1788] in the Elk Hills do not have the number of hard shells and clay-beds which are pierced.

The absence of hard-shells would facilitate drilling. Such shells are difficult to pierce. The presence of hard shells would facilitate the landing of casing or the cutting off of water.

Since my experience in the oil fields of California began I believe Dr. Branner's experience has been very limited. I know of one or two pieces of work only, of my knowledge. The one piece of work, the one done recently, was a geological reconnaissance in which he requested that somebody be sent in to do detail work with reference to the oil formation. I

don't believe that he has been as extensively engaged in work in the geology of the oil fields as I have. Practically all of my time has been devoted to that work since 1907. My major subject at Stanford University was geology.

I began my geological work almost as a boy. I was always interested in it, had some high school work, was always interested in the discussion, had the advantage of a library at home and the benefit of association with men who were interested in geological work. I made my first geological conclusion, probably, when I was twelve or fourteen years of age. I collected fossils from old limestone fences, the old ancient formations of fossils, the old brachiopods and sparivars, which are so common throughout the limestones of the middle west. From that time on I gave almost constant attention to geology.

I have not seen an oil seepage in Section 32, 30-24. Assuming that the oil seepage there referred to is purely a vegetable deposit unconnected with petroleum, I would say that its presence had really no bearing upon possibility or the improbability of the oil. With reference to my answers to questions on cross examination relative to the inferences arising from the [1789] supposed seepage mentioned, I will say that I answered the question that Mr. Mills put to me. In that question he said that, assuming that the oil seepage was there. The question which I answered was, I believe, the best I could do with the

assumption that that was a seepage. In my own mind, of course, I had the feeling that it was not; but assuming the question as he put it, that the seepage was there, why, my answer was along that line.

As to my answers to questions relating to the conclusion that has been arrived at by a geologist who was familiar with the seepages along the Temblor Range near McKittrick and to the southwest and who saw the structure of the Elk Hills, I will say that if he was acquainted with the geology of California he would know that a topographic feature like the Elk Hills is the result of some sort of an uplift. The uplift might be anticlinal—very likely was—and the general relation of an anticline to the neighboring territory, the oil seepages, would be the first step in the idea, suspicioning that the structure might be favorable, that is, that the conditions might be favorable.

If he had made the right sort of work or the proper amount of work he ought to have been able to arrive at a conclusion for or against the Elk Hills. He could not have arrived at a conclusion merely from the evidences of the seepages and the surface appearance of the hills. A definite conclusion would have involved a good deal of detail work. A geological problem is not the result of a few days' work. It is very often the result of a good many visits, study, and a slow appreciation of the real philosophy of the whole problem. It is not an answer to be arrived at in just

a brief observation, but it is the result of an extensive bit of thought.

I don't see how a man could be qualified to pass an opinion upon the value of the Elk Hills as oil lands who merely went into McKittrick in 1900 on the train, and from there traveled over [1790] to the Temblor district to make an examination at that point, remained in the Temblor district a period of about ten days making an examination there, then returned back to McKittrick and took a train out of there.

In referring to the McKittrick front anticline I had in mind a small structure, antilinal structure, which forms, or creates a low line of hills north or in front of the McKittrick fields. I regard that as the beginning of the Elk Hills structure, and continues northwesterly, so to speak, of the antilinal field of the Elk Hills, built at the same time and involving the same conditions. I believe four or five wells have been developed in that anticline. I think there were at least two there in 1907, that I remember of. The best of these wells, I think, showed about ten or twelve barrels a day. The territory was practically abandoned by the developers of the ground. I believe it is not paying ground.

I would not call a well in the Elk Hills over 3,000 feet deep, from which a hundred barrels could be pumped, a paying well because the cost of operation, cost of the drilling and equipment of the well, with the initial production of a hundred barrels a day, that

the earning capacity would not be adequate to the investment, and if the well should be 4,000 feet deep its earning capacity would be decreased.

The opinion I reached, in 1907, as to the character of the Elk Hills would be corroborated if wells have been sunk to a depth of over four thousand feet at more or less favorably located points and have not shown any indications of oil.

I agree with the statement in Dr. Branner's letter of October 18, 1910, relative to Sections 2, 4, 6, 8, 12, 14 and 20, which reads as follows:

"Especial effort was made to find indications of the presence of petroleum on these lands; seepages of petroleum and [1791] beds of asphaltum were looked for on all of the sections in question, but none was found. Old oil seepages, however, are known and were seen on one of the adjoining sections (Section 11). The question arises whether a seepage of oil on Section 11 could be considered geologic evidence of the existence of petroleum on Section 12 or on any other section involved. As a conservative geologist I hesitate to express an opinion on this subject without more evidence than these seepages afford. I have seen enormous asphaltum deposits where no oil could be found by deep wells put down in the most favorable localities in the vicinity. Seepages and asphaltum deposits cannot therefore be regarded as unquestionable evidence of the existence of petroleum in the adjoining sections."

I was in the West Side field of Kern county in 1910.

As to how close the drilling and production of oil had approached the Buena Vista Hills up to October of that year, I will say that I think the production was confined to the west side of the field up near the edge of the outcrop of the formations, but I think that the well on Section 10, the original discovery well of the Buena Vista Hills, was in process of drilling. I believe so.

The original discovery well may have been brought in in February, 1910. The drilling in the Midway flat along toward the end of the year, 1910, had approached much closer to the Buena Vista Hills than it was in 1900.

I agree with the statement of Dr. Branner in the letter above mentioned, which reads as follows:

**“Evidence from outside of the Buena Vista Hills—**

In spite of the absence of direct evidence to be found in the geologic formations on the lands in question, a study of the broad features of the geology of the southern end of the San Joaquin Valley leads me to the conclusion that these lands probably do have oil beneath them. The features referred to are the existence [1792] of an enormous thickness of oil-producing shales along the west side of the San Joaquin Valley, the association with these shales of porous sedimentary deposits, and the folds beneath and along which oil and gas usually accumulate. If oil had not been found, however, in the region south and west of the Buena Vista Hills a geologist would have been very bold indeed who would have ventured to predict

the existence of petroleum in the Buena Vista Hills themselves."

Referring to the conversation I had with Professor Owen in July, 1907, concerning the Buena Vista and Elk Hills, I will say that he spoke very favorably of the Buena Vista Hills and said that the conditions were so favorable that if a spindle top were to be found in California it would be found there. He didn't say anything about the Elk Hills being a spindle top, in that conversation. Some time during that day he made the remark about the Elk Hills being too far away to fill, and did not say anything to me about there being a spindle top in that conversation.

The data given by Mr. Veatch in his statement that, "the geologic structure of the Elk Hills is so very evident—the hill, as explained before, is a structural hill—that any one a geologist standing at Asphalto would naturally and at once suspect the character of the fold. If that suspicion were verified by examination, as stated in your question, if the geologist had actually been on the ground, he could not have helped but know absolutely the anticlinal nature of the hill, and from the development in McKittrick must certainly have regarded it as an oil proposition," is not sufficient to enable a competent geologist to determine the character of the Elk Hills. I don't believe a competent geologist who went in there in 1907 and examined and determined what I did concerning the character and structure of the Elk

Hills and McKittrick region, would have recommended the Elk Hills as a [1793] profitable investment of money. I would not have done so. Some of the McKittrick formation was infolded within the Monterey in the vicinity of the town of McKittrick. After the building of the McKittrick anticline and the disturbance of the Tulare time, the McKittrick anticline was again subject to a pressure, lateral pressure, and it was during that time that very likely some of the sands near the bottom of the McKittrick were infolded or included in the structure. It is possible that there should have even been a sliding-over, that is, a portion of the McKittrick anticline may have been forced on over and over-shooting above the bed-sands of the McKittrick, and these sands may be now contributing to the pay zone or actually constituting the pay zone about the area of the Reward and the Jackson properties in the McKittrick field. That sand might be a portion of the Santa Margarita; but the Santa Margarita is that portion—in grouping the Monterey, it has been called, or parts of the lands have been called Monterey-Santa Margarita. Santa Margarita, being somewhat of a sandy nature, it is that portion of the Monterey time when we are coming back to shallow water, the shore-line conditions again. And partly in support of an idea or classification when the name “Santa Margarita” was placed in the middle Miocene division for the geology of the Coalinga field further north. But the sands of the Santa Margarita may also contribute to

it. I have not been able to determine exactly to what period those sands belong. I have looked for fossils. The sands of the McKittrick front are characterized mainly by the presence of a well known fossil. Nearly all the wells show it. And that sand appeared in the sands of the wells further back in the McKittrick anticline. The Lakeview gusher is situated rather close to the old shore-line. The sand at that point was considerably thicker than the sand further out. I have found from an investigation of the well logs that further towards the plains, beginning with the wells upon the edge of the hills and carrying them [1794] out towards the Buena Vistas, there is a slight thinning of the thickness of the oil sands.

I don't know of an example in the California oil fields of the Horizon theory given by Mr. Veatch where he assumed the existence of an outcrop thirty miles along the Temblor Range and said that there is an oil-bearing horizon or zone beneath the valley out a distance of fifteen miles at right angles from the line of outcrops. My conclusion as to the Elk Hills was based principally upon my knowledge of the McKittrick field and the conditions to the west, which were controlling features of any later geology.

#### RE-CROSS EXAMINATION OF

W. H. OCHSNER

My work for the Associated Oil Company, principally, was the investigation of proposed purchases or properties developed. I did not look up the pro-

duction of any of their wells except such as had a direct bearing on a particular problem in the neighborhood. I don't know the average production of the Associated Oil Company's wells in the West Side field. I would think that it was more than fifty barrels a day, but I really don't know. I suppose the average production of the McKittrick wells would be in the neighborhood of fifty or sixty barrels. The total average of the wells in the West Side field should, I think be more than one hundred barrels, but I really don't know how much it would be. I could hardly guess.

The Bellridge field is about three miles from the shore-line I have mentioned and that shore-line is about eleven miles from the Lost Hills, right out in the plains. From the crest of the Kettleman Hills, the top of the anticline, it is about eight and a half miles to the shore-line. The Lost Hills and the Bellridge are producing territories and the Kettleman [1795] Hills may become such. These facts do not justify Mr. Veatch's horizon theory.

The Lost Hills, Bellridge and Kettleman Hills are not as analagously situated from the line of the outcrop as the Elk Hills are situated from that line because the Buena Vista Hills lie in part between the Elk Hills and the line of the outcrop mentioned. The western part of the Elk Hills is in no wise cut off from the line of the outcrop by the Buena Vista Hills and the lands involved in this suit are partially or not entirely so cut off. As to Sections 24 and 26 in

30-23 and Section 30, 30-24, I should say that the Buena Vista Hills do not act as a barrier. I do not think there is a continuous correlation of the oil-sands right through from the seepages on the front of the Temblor Range and the lands involved in this suit.

I have said that our well in the Kettleman Hills had cost about \$147,000, which, taken as a basis, would make the well cost \$35 per foot, and assuming it to be a fact that a 3800 foot well of the Associated Oil Company on Section 26, 30-23 cost, altogether, \$52,000, there would be a difference of 300% in favor of the Elk Hills on the eventual cost of sinking wells. The drilling in both the Bellridge and the Elk Hills starts in the Tulare formation. The drilling in the Bellridge through that formation is shallow and after a short distance enters the McKittrick. We found no difficulties in drilling there.

My last trip into the Elk Hills was, I think, sometime about the close of 1909 before there were any drilling operations at all there. And such statements as I have made, relative to the evidence shown by drilling there, were not made from my personal observations.

Referring to the wells on the anticline of the McKittrick front I have said that they were all abandoned and that they were not commercial. Oil was discovered in the [1796] Nacarima well, on Section 6 of 30-22 on that anticline, and, as I have said, the U. S. well on Section 6 of 30-22 on that anticline was

abandoned at the time of my investigations. I understand that a small amount of fuel oil is being taken from that well. In the sense of further development, I was not mistaken in my statement that that well had been abandoned. A discovery of a successful well is followed by subsequent development and that well was abandoned, everything was gone, at the time I visited there. I am not aware of the fact that the Mehaska well, on Section, 30, 29-21 is now producing 150 barrels of oil a day. The production has been reported to me at different times. A 150 barrel well is not a commercial proposition on that anticline at the present time, with the present prices of the character of oil. They are selling oil from that well but are not drilling any more wells. I should say that that well is not paying, upon the investment, or it is evident that there would be further development.

The anticline, on which the wells I have just mentioned are, runs on clear through the Elk Hills to Section 32 of 30-24. The structure is continuous. There are disturbances and offsets, but generally speaking, it is continuous.

I would not be able to determine whether the Elk Hills were oil-bearing or not from an examination limited to the eastern portion of the Hills in Township 30, Range 24. It would require an examination of the entire structure to determine where the oil lies.

A well producing one hundred barrels a day of

twenty-eight gravity oil would yield a gross earning of \$55.00 a day and if it kept up that yield it would pay for itself in three years, if it cost \$65,000 to drill it, and I would consider such a well in the Elk Hills a commercial and paying proposition, if it kept up.

The statement made by Dr. Branner might or might not be [1797] true when he said, "I should not expect it to influence it to the disadvantage of any accumulations. In fact, I anticipate that if I could take off the oil-bearing beds, the whole series—strip them right away down until we come to the Monterey shales—that I might find those shales more or less folded and ending right against the old ground surface on which these later and oil-bearing beds have been laid down; but, so far as structural relations are concerned, I should consider that a sort of thing rather favorable than unfavorable to the accumulation of oil in the overlying beds," in answer to the following question: "From your examination, Doctor, of the Elk Hills and the Buena Vista Hills and your knowledge of the surrounding and neighboring regions, do you consider that it is at all probable that the Monterey shales are folded under the Elk Hills or faulted in any way, that is, in such a way as to disturb the commercial value of the oil which underlies those hills?" There is no way of determining the correctness of that statement; I said that there was a chance that the Monterey was not bent upward in the anticlinal uplift with the building of the Elk Hills.

I do not agree, absolutely, with the statement of Dr. Branner, that he would anticipate that if he could take off the oil-bearing beds and strip them down to the Monterey shales he might find those shales more or less folded and ending right up against the old ground surface on which the later oil-bearing beds have been laid down." It is an anticipation which can be taken in either direction. I feel that it has two interpretations—either one might be correct. There is no way of determining. Dr. Branner might be correct and he might not. I have reasons to believe that I came more closely to the real condition on that particular problem.

If the Monterey shales are folded under the Elk Hills it would rather be to the advantage of the accumulation of petro- [1798] -leum there—by the migration of the oil from the Monterey in the over-lying beds of the McKittrick formation in the Elk Hills.

I was reasonably certain as to my conclusion about the Elk Hills, reached in the fall of 1907, but in the light of a good deal more experience than I had had, and in view of the extensive developments, I was looking for territory to develop, when I went there later, and I wanted to know if I had studied that territory properly; if I hadn't overlooked something; I might even now be overlooking something. I don't know that I probably overlooked anything in the Elk Hills, perhaps I did, I have no way of telling. I have often overlooked things, but we all do in the field.

REDIRECT EXAMINATION  
OF  
W. H. OCHSNER

In making my calculations about the well mentioned in my Re Cross Examination, paying for itself in three years, I didn't make any allowance for the cost of operation, which would amount to from twelve to eighteen cents and upward in a well 4,000 feet deep. I didn't figure in that calculation anything about breakage of machinery, sucker-rods, and so forth. I made it on the assumption that every bit of the income would be net profit and that there would be no decline in the production of the well. I agree with Dr. Branner's opinion that the presence or absence of the seepage in the Elk Hills would have very little to do with the forming of an opinion as to the oil character of the hills, or, in other words, that viewing the structure as he did, he could come to a conclusion in favor of the Hills without any special reference to the seepage. I would not come to the conclusion that he did in favor of the Hills. [1799]

D. S. EWING, a witness called and sworn on behalf of the defendants, testified as follows:

DIRECT EXAMINATION.

I reside at Fresno, California, and I am an attorney at law, and I have been practicing about twenty years in Fresno. I first became connected with the oil business in the Kern River fields in 1898, I think. I first represented some gentlemen who formed the

38 Fuel & Oil Company. I incorporated the Company and became a stockholder.

After going into the Kern River fields, I was there on an average of possibly once a month, and later, on an average of every ten days or two weeks. I was not in charge of any particular company, but was in touch with the operations by virtue of my interest individually in the property.

I went into the West Side of Kern County in either 1900 or 1901,—somewhere along there. I fix this date by the time of the organization and incorporation of the old El Modelo Oil Company. Property of that company was west and possibly a little north of the townsite of McKittrick—I have forgotten the section. I was there in connection with the operation of that company. That company sunk a well there about 1200 feet and found no oil.

Shortly after that I was interested in the Casa Oil Company, which operated on eighty acres of land just a little west of the present townsite of Taft; that is, south of McKittrick in the Midway. My connection with that company continued up to the time of its failure, about a year after its incorporation.

After that I had no interest in a financial way in the oil business on the West Side until April, 1909, but I was the legal representative of several companies that operated over there for all these years from the time I first commenced. From 1900 or 1901, I went into the West Side on an average of more than [1800] once a month. I go now about every

ten days, and have been doing so for two or three years. I think I am familiar with the opinion amongst oil men for three or four years after 1900 or 1901, as to where oil could be found. In the first place we had an opinion that oil was not migratory in its character, and that it laid around in different places in pools, that is, in the early history of the oil business; and the general opinion, I think, among oil operators, without any question, was that oil laid there in the sands on the easterly side of the Coast range mountains with the slope towards the valley. I don't think there was much general opinion as to how far into the valley the oil went in those days. The idea was that from the outcroppings of the oil sands along the easterly side of the Coast Range mountains the stratification would dip at certain angles toward the plain,—that the closer you got to the outcroppings of the sands on the hillside the more certainly you would strike the oil, but in less quantities; the further out you got on the dip, and the deeper down you went, if you struck oil at all, you would get it in better quantities. From 1900 to 1903, there was not a well outside of the hills that I now remember in the McKittrick district. There was the El Modello Oil Company on section 20, a little south and east of the town of McKittrick, I think in 30-22. I think the California Standard and the Giant were north and west of McKittrick. There was an artesian well out on the plains north of McKittrick that had been drilled for oil, but they penetrated the

water sands and left it alone there. That was practically out in the flat, possibly a mile from the edge of the foot-hills, and was the furthest development east. It ran over a six or eight inch casing, about four feet high, and was a kind of sulphur water.

I was in the Elk Hills during those years to see what was there with reference to location for oil purposes. I examined other country in the vicinity of McKittrick beside the Elk Hills. [1801] I went from what we knew as the Temblor fields at that time,—I believe it is called Bellridge now,—south, to old Sunset, just below the townsite of Maricopa, clear through the Midway and McKittrick fields, and the Buena Vista Hills and Elk Hills.

I made no geological examination in the Elk Hills. I am not a geologist. I was looking for outcroppings of sand or other indications of oil, and found nothing that attracted my attention or fancy at that time to make me think there was oil there. I made no locations there, and didn't think there was oil there, and I have not changed my opinion since that time.

I was in the West Side every week or ten days during the rush into the Elk Hills in 1910. That rush didn't cause me to go into the Elk Hills. I didn't think it would pay me to go; didn't think there was oil there in any sufficient quantity. I was engaged in the oil business then. Financially, my own interests were at Maricopa, Kern River and Coalinga. Maricopa is the south end of what you call the Midway fields. I was interested as agent

and representative of other oil operators in the Midway and McKittrick districts.

I was once up to the north of McKittrick in the vicinity of what is now known as the Bellridge district in the early days. I did not make any locations there personally. Others with whom I was interested did. Nothing was done to develop oil on those locations. My associates still retain an interest in the property that was located at that time. I don't think my associates required any property in the Elk Hills.

#### CROSS EXAMINATION

of

D. S. EWING.

I am, and have been, practicing law in Fresno approximately twenty years. My practice keeps me busy, but I don't think I [1802] make quite as much money out of it as I do out of other things. I have never acted as counsel, solicitor or attorney for the Southern Pacific Company, the Southern Pacific Railroad Company, the Kern Trading & Oil Company, or the Associated Oil Company.

I was one of a committee that went to Bakersfield to organize the Associated Oil Company. I once had stocks and bonds in the Company but sold them years ago.

I was not subpoenaed as a witness in this case. I came here at the request of Mr. Lewers, the attorney for the defendant, and in response to a letter from him.

I went into the Elk Hills within a very short time after I arrived in McKittrick in 1900 or 1901. I went out as a great many others did at that time for the purpose of looking over the Elk Hills to see if it would, in my judgment, justify the making of mineral locations for petroleum. Prior to that time I had been interested in a financial way, in the Coalinga fields, possibly the latter part of 1898, but had not had any active supervision in the field of any oil properties. On that trip I approached the Elk Hills from the southwesterly side, but could not tell the particular section I went to. I don't know the length or width of the hills. I think I went from east to west from about the center, but possibly over the greater part of the westerly half; I might have gotten over the westerly half, I didn't know where I was. I don't remember positively whether I visited section 32 of 30-24 or not. I did not visit an oil cropping of sand, or gas blow-out, or evidence of waste of oil in that section. I didn't know about it at that time. I don't know what caused the Elk Hills. The fact that it was a structural unlift did not indicate to me at that time that it would be an ideal spot for the accumulation of petroleum—enough to justify me to operate there. I don't know exactly what you refer to when you ask about the structural character of the Hills. I think that some of those hills have been [1803] caused by violent eruptions in the past, with stratification underneath the earth's surface, distributed and tilted in accord-

ance with the contour of the hills to a certain extent. As to whether the Elk Hills was caused by volcanic eruptions or other violent eruptions, I can't say. My knowledge of oil geology, from a practical standpoint of the West Side fields, was extremely limited when I went into the Elk Hills. I can't say that my failure to find evidence which would lead me to the location of land for petroleum in those hills was due in a large part to my ignorance and lack of information from a general practical study of oil geology.

I was in the Elk Hills two or three times after that, possibly as late as 1902. I was still looking for oil indications on those trips. I didn't make up my mind on the first trip or I would not have gone back again. The last time I was there I satisfied myself to such an extent that I didn't go back again. I don't know of oil discoveries in the Elk Hills except by general information; never visited the wells brought in by the Associated Oil Company. My opinion would have been different if, when I was there in 1901, the Associated Oil Company had then brought in a well on section 30 of 30-24 which spurted oil for some days, and gradually increased its production from an estimated 50-bbl. well a day up to 406 barrels a day, and if there had been another well on section 26 cornering that section, which produced a number of hundred of barrels of oil until it was closed down, and if there had been a well on section 24, which produced a large quantity of oil until the gates were locked and the well capped, and

the force of the oil was pressing through the unions at the head of the well. But just let me make this one explanation. I might not change my mind now as to the quantity of oil in those hills unless I knew the depth of the sand, and the saturation of the sand, and things of that kind. A well that will spurt for a little [1804] while might after awhile not amount to anything. If the conditions I have mentioned above as to the wells had existed when I was there in 1901, that would have swayed me to this extent, that I would have located the lands, if I possibly could, and would have drilled to try to get oil. I did not in 1901, or shortly thereafter, make locations in other fields which subsequently proved to be good oil territory.

RE-DIRECT EXAMINATION

of

D. S. EWING.

I was attorney in a personal injury case against the Southern Pacific Railroad Company, and secured a verdict of \$100,000.

RE-CROSS EXAMINATION

of

D. S. EWING.

The Company paid us \$92,747.00 on the verdict I have mentioned above. I have never been very friendly with the Southern Pacific. [1805]

W. J. LUKE, JR., a witness called and sworn on behalf of the defendants, testified as follows:

## DIRECT EXAMINATION.

By Mr. Lewers:

Q. You are a field agent of the land department of the Southern Pacific Railroad Company, are you not?

A. Yes sir.

Q. And how long have you been connected with that department?

A. Three years the 5th of this month.

Q. And are you a graduate of any institution, Mr. Luke?

A. Yes sir.

Q. Of what institution?

A. The School of Mines of the University of Nevada.

Q. And when did you graduate there?

A. 1898.

Q. And following your graduation what occupations did you follow, in a general way?

A. Why, mining, and such business as would be connected with mining, up and down this country, through the states of Nevada, California, and South and Central Amreica.

Q. And during that time you had no experience in connection with the oil business, did you?

A. Nothing but just one or two small examinations that amounted to really nothing; preliminaries only.

Q. Have you done any work in connection with

the collection of data in the Elk Hills concerning this suit now on trial?

A. Yes sir.

Q. What work have you done in there, that is, what data have you been engaged in collecting?

A. Well, I have gone over the land in the suit, together with other lands nearby, and endeavored to find out the facts in connection with the development that has gone on there and as to the [1806] present status of that development.

Q. Well, what have you done with reference to the wells?

A. I have visited all of the wells in that township, 30-23, that contain the lands in suit, and have also visited all of the other wells that are immediately contiguous to that territory.

Q. Have you collected any data with reference to those wells?

A. Yes; I have collected logs in a great number of them.

Q. And have you, as a result of the work that you have done in there, prepared any map or plat?

A. Yes.

Q. Have you that map?

A. Yes.

Q. Will you produce it?

A. (Produced)

Q. Now, what is that map intended to show? State as briefly as possible, Mr. Luke.

A. It is to show the development, and the approx-

imate location of the same, in the Elk Hills territory and the lands immediately contiguous to it.

Q. At what time?

A. From 1911, up to the first of this year.

Q. Up to the first of 1913?

A. I should say twelve—change that—to 1913.

Q. And what, if anything, does that map show with reference to the depth of wells?

A. It shows the depth of all of the wells that I was able to obtain logs of.

Q. Well, did you obtain data as to the depth of the wells from any other source than from logs?

A. Yes. I was told the depth of some of those wells by the men who sunk them, or by officers of the company who didn't have logs of the same, which I was unable to obtain. [1807]

Q. Did you get any data from the evidence that was offered or introduced in this case?

A. Yes; also from the evidence that was offered in this case.

Q. Now, do the various marks that you have indicated and described in the legend on the map fairly represent the conditions as you found them on the ground?

A. They do.

Q. And how about the various indications of depth which you have marked upon that map opposite the indication of the various wells? Are those the result of the investigations that you have made?

A. They are.

Q. And are they, as far as you have been able to make them and ascertain, accurate?

A. They are. To the best of my knowledge they are correct; as far as I have been able to get at it.

Q. And have you visited all of those properties?

A. I have.

Q. When were you last in there, Mr. Luke?

Q. I was last in the Elk Hills—I can give you the exact date, if you wish it.

A. Well, approximately. The exact date is not necessary, unless you can get at it readily.

A. I can get it rather readily, I think. It was in November of last year, 1912, along about the 19th or 20th of the month; along thereabouts.

Q. What development work was going on at that time?

A. There was nothing going on in the Elk Hills at that time at all in the way of development work.

Q. What was the condition of the various oil properties that you observed?

A. They were all standing idle, some of them having been torn [1808] down and others standing idle.

Q. And you say no work was going on at all?

A. None that I could see anywhere.

Mr. Lewers: I now offer this map in evidence.

Mr. Mills: Preliminary to any objection which I may desire to make to the offer, I want to ask Mr. Luke some questions:

Q. Was this map prepared by you personally, Mr. Luke?

A. Yes sir; that is to say, I prepared the tracing of the map. It was then inked in by the draftsman in our office and the blueprints were made in our office. I didn't make these blueprints. The tracing I prepared in pencil, and he inked it in.

Q. So that this blueprint was not made by you at all?

A. No; the blueprint was not made by myself. It is a blueprint made from my tracings.

Q. How do you know it was made from your tracings?

A. Because I have compared it with the tracings.

Q. You have compared it, so that you know it is an exact copy?

A. Yes sir. It is an exact copy of the tracing.

Q. Now, you say that you got logs of some of the wells?

A. Yes.

Q. What wells referring to this map did you get logs of? You might start at some definite place from which we can go across the map.

A. Yes. We will start in Township 30-23 on Section 20. I didn't procure the log of that well.

Q. You say you didn't obtain the log of the Scottish Oil Fields Limited, as shown on Section 20?

A. No sir.

Q. Of 30-23?

A. Personally I did not.

Q. Did you get the log which was introduced in evidence, which you say was introduced in evidence?

[1809]

A. I have seen a copy of the log before it was introduced and took the depth from that.

Q. Then you didn't get your data as to the well from the log which was introduced?

A. Yes sir.

Q. I thought you said you got it from a copy of a log which was introduced.

A. When I said "copy," I meant the log itself. I saw the log, the papers that represented the log.

Q. Who showed you the log on the Scottish Oil Fields Limited?

A. It was shown here in this room, I believe.

Q. Did you get it from any officer of the Scottish Oil Fields Limited?

A. I think Mr. Stork had it here.

Q. And he showed it to you prior to his going on the stand?

A. No; I think it was after it was introduced that I saw the log. I think so.

Q. Did you see any purported log of the Scottish Oil Fields Limited at any time before Mr. Stork brought it here to the city of Los Angeles?

A. No sir; I did not.

Q. Did you see it at any time before it was introduced in evidence?

A. I think not.

Q. That was a well, was it not, of which the log referred only to that portion of the well which was drilled by the rotary, and showed no portion of the well which was drilled by standard tools?

A. I believe it did.

Q. How is that?

A. I believe it did. I believe your supposition is correct.

Q. Then, so far as the well on Section 20, to which we have referred, is concerned, your information was obtained from a log [1810] which only showed about one-half of the drillings?

A. Showed its depth.

Q. Showed no portion of the formations which were passed through down to the time they put it on the rotary?

A. No; I believe it did not. I would also state, in connection with that same well, that Mr. John Lang, who testified on the stand here, who was interested, also told me the depth of the well.

Mr. Mills: I move that that be stricken out, as not responsive to any question on my part, and a mere volunteer statement of the witness.

Mr. Lewers: I submit it should stand, as being responsive to the general question.

Q. By Mr. Mills: Now, take up the next one.

A. Coming over to Section 22.

Q. In the same township?

A. In the same township, 30-23. Those three wells were put down by the Associated Oil Company, and I saw those three logs. They were furnished me by the Associated Oil Company.

Q. Were these three logs furnished to you by the Associated Oil Company at the same time?

A. Yes.

Q. When was that?

A. Oh, I can't tell you the exact date. I didn't make a note of the exact date that I got them. It was sometime along in the fall of this last year.

Q. September?

A. No; it was prior to that, I think.

Q. Now, who gave you these logs on Section 22, that is, what official or employee of the Associated Oil Company?

A. They were given to me directly by Mr. Jeffries, who obtained them from one of the officials of the company.

Q. Who is Mr. Jeffries? [1811]

A. He is an associate of the land department working on this same case with myself, and he obtained them, I think, from Mr. Williams.

Q. And who is Mr. Williams?

A. He is one of the geologists of the Associated Oil Company, I believe.

Q. Then, you got the logs of those wells on Section 22, not from any one directly connected with the Associated Oil Company, but at second-hand through Mr. Jeffries?

A. Yes sir; personally he handed them to me.

Q. How do you know that they are the logs of those wells?

A. They are marked as such; they are on their papers, they are on their forms.

Q. Is that all you have by which to know that they are the logs of those wells?

A. Yes; that is the general way that I know that they are the logs of those wells.

Q. How many logs of the Associated Oil Company did Mr. Jeffries have at that time?

A. I couldn't say.

Q. Did you see any others in his possession at that time?

A. I don't think I did.

Q. Or at any other time?

A. Yes; he got some other logs from them.

Q. Mr. Jeffries was enabled to get the logs from the Associated Oil Company by reason of the fact that that company is a subsidiary of the Southern Pacific Company, defendant? Is that so?

A. I can't tell you anything about that.

Q. You know, in a general way, don't you, that to be true?

A. I know that the Associated Oil Company, in a general way, is a subsidiary of the Southern Pacific Company, at least I understand such; but whether that had any influence on Mr. Jeffries being [1812] able to get these logs or not I can't say.

Q. Now, have you those logs with you?

A. No; I have not.

Q. Where are they?

A. I can't tell you. I do not know where they are at present.

Q. Whom did you give them to?

A. I gave them to Mr. Anderson.

Q. Who is Mr. Anderson?

A. Mr. F. M. Anderson.

Q. The gentleman in the room—the geologist for that company?

A. I believe he is a geologist for the Universal Oil Company, or was at that time.

Q. In what way is he connected with the Southern Pacific Company or any of the defendants in this case or any of the subsidiaries?

A. I have no idea; I don't know whether he has any connection with them at all or not.

Q. You mean by that with the Southern Pacific Company and the Kern Trading and Oil Company?

A. Yes sir.

Mr. Mills: Mr. Anderson, have you got those logs?

Mr. Anderson: I am not on the stand, Mr. Mills.

Mr. Lewers: You can answer.

Mr. Anderson: Yes; I have them.

Mr. Mills: Have you those logs here?

Mr. Anderson: Yes sir.

Mr. Mills: Will you produce them?

Mr. Lewers: We will produce them, Mr. Mills.

Mr. Mills: I ask that because the government has been unable to get the Associated logs of those wells.

Mr. Lewers: I think Mr. Martin testified that he got them confidentially but he didn't like to tell about them. [1813]

Mr. Mills: I am stating that so far as I know I have never seen a log of the Associated Oil Company and have been unable to get any.

Mr. Lewers: I wish you would have asked me; I

would have used my influence to get you one or three or four of them.

Mr. Mills: It is all well enough to make that statement now generously on the record when you are about to produce them yourself.

Q. By Mr. Mills: Take Section 24.

A. Those were obtained in the same way.

Q. From Mr. Jeffries?

A. Yes; he went down there and got them for me.

Q. And you know nothing about the Associated Oil Company's logs on Section 24 or 22 as correctly delineating or representing the depths of those wells except what Mr. Jeffries told you or what appeared upon the papers which he handed you?

A. I took the papers as a fact.

Q. Read the question again, and see if we can get a different answer.

(The question is read.)

A. Mr. Jeffries did not tell me anything about the logs. Therefore I got no information from him regarding it. The logs themselves were the evidence I took.

Q. And you know nothing about the correctness of what you put on the map here with respect to the Associated Oil Company's wells on Section 24 excepting what you found on some papers which Mr. Jeffries handed you?

A. Nothing other than what the log showed.

Q. Will you read that question again? And please answer it again.

Mr. Lewers: I submit that the answer is responsive, Mr. Mills. (The reporter reads the question.)

Q. By Mr. Mills: Add this: And which purported to be the logs [1814] of those wells on Section 24.

A. I took them from the logs—

Q. Did you know anything about the correctness of what you put on this map excepting what you took from the papers which Mr. Jeffries handed you?

A. Certainly not.

Q. How many logs did you get on Section 24 of 30-24?

A. The four logs of the four wells shown there.

Q. What were they—in what form? What form were they in?

A. What do you mean by that?

Q. Were they in small sheets as kept daily by the drillers, or were they compilations in typewriting—a copy of the original log?

A. They were typewritten and, I should say, from the original logs.

Q. And that is true of all the logs you got?

A. Yes sir.

Q. They were copies of the original logs or what you supposed were copies?

A. Yes sir.

Q. Did you see the original logs of any of these wells?

A. Not of those wells in that section; no.

Q. I note that on the southwest quarter of Sec-

tion 24 you have a well which appears to be by your map 3887 feet deep.

A. Yes sir.

Q. And which you have in the legend represented as a well showing oil and not producing?

A. Yes sir.

Q. Were you present on Section 24 when that well was brought in?

A. No sir.

Q. You merely mean that at the time you visited that section [1815] of land and that well the Associated Oil Company were not operating the well? Is that what you mean by that legend?

A. The well was not producing at the time I saw it.

Q. In other words, it was not being operated?

A. Not being operated.

Q. So that it might be a productive well and yet your map would not show it?

A. It might have been; yes sir. It might be.

Q. For all that you know now that well should be a producing well and so marked on your legend?

A. If it was a producing well I think it would be producing, and it is not producing and was not at the time I was in there in November of 1912.

Q. Was it capped at the time you were in there?

A. No; that is not capped—I don't know whether it was capped or not. I didn't go down to the rig at that time. I didn't go into the derrick at that time. There was no steam in their boilers.

Q. I didn't ask you about the boilers. I asked you whether the well was capped.

A. I couldn't tell you.

Q. Were the gates locked?

A. I don't know.

Q. Was the well at the time you were there making gas?

A. Not that I saw or heard.

Q. Do you know anything about the production of oil from that well on the southwest quarter of Section 24 at any time prior to the date on which you visited the well?

A. I have heard something of it in this courtroom; that is all.

Q. Did you see a sump-hole there?

A. Yes; there was a sump-hole there. [1816]

Q. Did you see a body of oil in the sump-hole?

A. There was a little oil in it; very little.

Q. Was there any evidence about the derrick of that well which would indicate to you that the well had been a spouting well at the time it was brought in?

A. The derrick is black with oil, whatever that might mean.

Q. Are you sufficiently familiar with oil conditions and oil fields generally to know what that does mean?

A. Yes.

Q. What does it mean?

A. It means there has been oil in that well.

Q. And it also means, does it not, that the well spouted?

A. It might possibly and it might not. It depends on the age of the well. If the well had been producing for a number of years, the derrick might be black with pulling of the tubing and one thing or another and the splashing of oil around. It might get black in other ways.

Q. That well at the time you visited it was entirely black and covered with oil?

A. It is now, as much as I know.

Q. Was it at the time you visited it?

A. Yes; in November. The first time I saw the well it was not. That was in March, 1912.

Q. I am referring to the time when you visited the well to get the data in the fall of 1912.

A. At that time the well was black or, I should say, the derrick was black.

Q. That indicated to your mind at once that that well came in as a spouting well?

A. Well, yes; probably it did. I naturally supposed so.

Q. You were somewhat surprised that the Associated Oil Company had shut that well down?

[1817]

A. No; I had no surprise in the matter whatever.

Q. Do you know how many thousands of barrels a day that well was throwing at the time it came in?

A. No sir; I do not.

Q. Do you know whether or not the logs on the

wells on the northwest quarter, the northeast quarter and the southeast quarter, or any of them, showed oil?

A. No; they did not according to my recollection of it at this time.

Q. Referring to the well on the southwest quarter of Section 24 on which you say the derrick was black with oil when you visited it, how far away was the engine and boiler from the derrick itself?

A. Oh, I don't hardly know. It was probably—I would say maybe a thousand feet or such a matter, and it may have been less. I wouldn't try to say. I didn't measure the distance and didn't give it much thought.

Q. It was put at a safe distance away from danger of fire when the well was brought in, was it not?

A. That is the general rule with all that business everywhere.

Q. And in this case particularly the boilers and engines were set at a considerably further distance than the average well?

A. I think there was a reason for that at that particular point.

Q. Just answer the question. We will get at the reason if we want it. Isn't it true?

A. Yes; they were. It is quite a distance. I can't say how far, but it is quite a distance.

Q. Did you take any precaution at that time or any pains to measure the capacity of the pump of that well?

A. No sir.

Q. Did you notice when you visited the well in the fall of 1912, on the southwest quarter of 24, about the quarter of a mile [1818] distant from the derrick itself, on the road a sign placed there by the Associated Oil Company warning automobiles not to come near?

A. I do not recall seeing that; no.

Q. That would not have prevented you from going up anyway?

A. I wasn't running an automobile.

Q. You were driving a mule?

A. I didn't have a mule. It was a couple of sorrel horses, one of which was a mare.

Q. Proceeding from that apparently rich territory, let us take up Section 26.

A. Those logs were obtained in the same way from the Associated Oil Company.

Q. And by "those logs," you mean the copies or purported copies of the original logs of the wells on Section 26 in 30-23.

A. Yes.

Q. Did you get the copies or purported copies of the original logs of the Associated Oil Company on Section 26 from Mr. Jeffries at the same time you got the other copies on 22 and 24?

A. I can't recall exactly whether they all came at once or not. I think not. I think there was some delay in having copies made, or something of that kind. At any rate, they were strung along over a period of probably a month. There was no great

hurry at the time I was getting them. I don't think they all came at once. I would rather say not.

Q. The well represented on the southwest quarter of Section 26 in 30-23, you have marked on your legend as a well showing oil, not producing?

A. Yes.

Q. By that you mean, do you not, that it was not being operated at the time you were there?

A. At the last time.

Q. You don't mean by that legend to have the court infer that [1819] it never produced oil and that it could not now produce oil?

A. No; because the well has produced oil.

Q. Do you know how many barrels of oil it has produced in a single day?

A. No; I do not. I have heard here on the stand. I don't know.

Q. Mr. Luke, what was the condition of the derrick on that well when you visited it?

A. It was a black derrick.

Q. All over with oil?

A. Yes.

Q. What did that indicate?

A. That it came in as a gusher or spouter. I don't know as I thought anything particular about that, whether it was a gusher or not.

Q. Now, that you do think about it, what does it indicate?

A. It indicates that more than likely there was a flow of oil there.

Q. And a considerable flow of oil in the form of a gusher, to blacken that well?

A. That I wouldn't say, because "a considerable flow" is a very indefinite term. The word "considerable" may be a great deal or not. It depends on what you wish to infer. The land surrounding it is not dark to any great area.

Q. Were you there when the well was brought in?

A. No sir.

Q. Was the well capped and the gates locked when you were there?

A. No sir.

Q. Did you go inside of the derrick?

A. Yes sir; I have been inside of the derrick two or three times. [1820]

Q. You have located that well in the southwest quarter of Section 26?

A. Yes.

Q. Isn't it true that that well is located in the southeast quarter of Section 26, as a matter of fact?

A. I think not. I think the well is approximately in its correct location.

Q. Isn't it true specifically that that well is located in the wrong quarter section on your map?

A. I don't hardly think so.

Q. Would not its proper location be in the southeast quarter section?

A. I rather think not.

Q. Did you find a quarter-corner when you located that well?

A. Yes. I know where the quarter-corner on the south line of that section is.

Q. Did you go and locate the quarter-corner on the south line of that section at the time you took your data?

A. No; I did not.

Q. Then you don't know whether you are right in placing that well on the southeast corner now, do you?

A. Yes; I think I am correct.

Q. Although you did not find the quarter-corner at the time you got your data?

A. I found the southwest quarter prior to the time I started to make this map, and I have seen it two or three times since, and my recollection is that the well is in about its correct position.

Q. When did you find the quarter-corner on the south line of 26?

A. I found it along in March of this last year. I ran the line over from the southeast to the southwest and I crossed the quarter-corner. It is a stone.

[1821]

Q. Did you at that time note that the derrick is on the southwest quarter?

A. I think I did.

Q. And it is because you then correctly fixed the position of that well that you now represent it on this map as on the southwest quarter?

A. Yes; I believe I have got the well in its correct position. To the best of my knowledge it is

right. That is, approximately right. It may be a few feet one way or the other, but the scale would hardly show that. I think it is correct.

Q. Is your map in all respects as accurate as you have placed the accuracy on the southwest quarter of Section 26?

A. My map is intended to be accurate as nearly as I could make it, from the best information I was able to obtain.

Q. And the accuracy of the location as you have placed it of the well on the southwest quarter of Section 26, is a fair criterion to judge the rest of the map by?

A. I will state that I believe the well is in its correct position, and you can judge it as you please.

Q. Will you please read the question again, Mr. Reporter? (The reporter reads the question.) Is that true?

A. The well is in its correct position as I think. You can judge the map from that or from other data as you wish.

Q. In other words, the accuracy of the location, as you have placed it, of this particular well in the southwest quarter of Section 26 is to be taken with the same degree of confidence as the accuracy of all those locations and all other data that you have prepared with this map?

A. Yes.

Q. If you should happen to be mistaken about that, you might be mistaken about any other data on the map?

A. Possibly so and possibly not. That well has no relation [1822] to any other part of the map except its own. There was no other well tied to that well. There was nothing else done from that point.

Q. How much oil was in the sump at the time you visited this well on the southwest quarter of Section 26?

A. I couldn't tell you?

Q. Were there five or six thousand barrels of oil?

A. No sir.

Q. How large was the sump and what was the capacity, as near as you can recollect it?

A. It was just a little dam across the bottom of the canyon. There never was a properly constructed sump. How much oil there was there is difficult to say, because I do not know how much water there was at the bottom. There might have been just a skimming of oil on top, for all I know, because I didn't go down there to examine.

Q. That includes all the wells of the Associated Oil Company in that township, does it not?

A. Yes sir.

Q. What did the log of the well on the southwest quarter of Section 26 in that township show as to the amount of oil it was producing when it was brought in?

A. I do not recall that it showed any.

Mr. Mills: Mr. Anderson, may I have the log of that well for a moment—the southwest quarter of 26?

A. It may, but I do not recall whether it did or not.—(Log of a well is produced by Mr. Anderson.)

Q. By Mr. Mills: Referring to well No. 1 on the southwest quarter of 26 of 30-23 that you have been talking about, the copy of the log which was furnished you showed gas at a depth between 1086 feet and 1095 feet, did it not?

A. It would be a mere matter of recalling from memory. I don't [1823] recall that now. It would be difficult to remember.

Q. Look at this.

A. Some gas 1086 to 1095.

Q. Is that correct?

A. Yes.

Q. Is this the same copy of the log from which you got this data which you placed on the map?

A. I believe it is.

Mr. McCormick: You are now directing his attention to the log handed you by Mr. Anderson?

Mr. Mills: Yes. Let me ask you what this pencil notation is on here.

A. That is not in my writing. I don't know what it means.

Mr. Mills: Do you know, Mr. Anderson?

Mr. Anderson: Yes; I know what this is.

Mr. Mills: Did you make that?

Mr. Anderson: I did.

Q. By Mr. Mills: I see that Mr. Anderson had placed here somewhere between 2900 feet and 3100 feet on this log in pencil, "Well flowed three or four barrels of oil per day between 65/8" and 41/2" while drilling. The oil must have come from between 2811 feet to 3573 feet." Was that on this copy which you

had at the time you made this map and got the log?

A. No sir.

Q. Did you compare this copy of the log with the actual log itself of the well?

A. No; I did not.

Q. You don't know, then, that this is a copy of the log?

A. Of my own personal comparison, no.

Q. And you say the same with reference to all the logs which you examined—all the copies of the logs which you examined—as to the Associated Oil Company's wells in that township and in [1824] 30 of 30-24?

A. Yes; I never had any opportunity to compare them with the original logs.

Q. There is a notation here of 159 feet of oil-sand from a depth of 3860 feet to a depth of 4027 feet. Did you place that on the purported copy of this log?

A. No sir; I made no pencil notations whatever, as I recall.

Q. Did you observe when you examined this purported copy that at a depth of between 3342 and 3360 feet there was a notation of a trace of oil?

A. I possibly did when I examined it.

Q. Did you also note that at a depth of between 3580 feet and 3593 feet there was a notation of 13 feet of blue shale showing heavy oil?

A. Yes; I possibly observed all of that while I was looking over the log—if it is there.

Q. And also there was shown on this copy of the

log 60 feet of blue shale showing light oil at a depth of between 3746 and 3806 feet. I am reading now from this copy of the log handed me by Mr. Anderson. Did you notice that?

A. I probably did, yes, as I read the log over.

Q. And there was also shown a depth of 42 feet of blue shale showing oil between 3806 feet and 3848 feet?

A. Yes.

Q. And that there is a showing of three feet of oil—

A. Three feet of oil?

Q. Three feet of shale showing oil and gas from 3857 feet to 3860 feet. Did you notice that?

A. Possibly I did. More than likely, if it is there.

Q. So that from the depth of 3704 feet to 4027 feet there was a showing on the copy of the log which you had of 324 feet of shale and sand showing oil?

[1825]

A. If your figures are correct in summing it up, probably that is true.

Q. Did you observe also a notation placed on this log showing that the first week's production was 45 barrels per day net, the second week 30 per day net, and the "present rate" 25 barrels per day, 38 degrees Baume at 60 degrees temperature." Did you observe that on the copy of this log?

A. I think I did.

Q. Why was it when you observed all those things that you placed in your legend a notation that

this well was a well showing oil and not producing?

A. Because it was not producing when I saw it.

Q. And solely for that reason?

A. To be sure. The well was not producing.

Q. As a matter of fact, the legend on your map is somewhat misleading as to what that well produces, even from the copy of the log itself which was handed you?

A. The legend of my map and the map itself aims to show the facts as to the condition of those wells at the time that I made the map. The well was not producing at that time. What it might be able to do, I don't know.

Q. I think you said the map was up to January 1st, 1913.

A. Yes sir.

Q. Are you acquainted with Mr. King, the superintendent of the Associated Oil Company's operations on those wells?

A. I have met Mr. King, yes sir.

Q. Had considerable talk with him?

A. No, not a considerable talk. I talked with Mr. King probably twice, probably five or ten minutes at a time.

Q. Did Mr. King tell you at that time that the well on that section or on any section in 30-23 which that company had drilled was a producing well commercially when it produced 45 barrels of [1826] oil a day.

A. He did not, because I didn't ask him anything about it.

Q. How much perforation was there put in the casing—the 4½" casing in the well on the southwest quarter of Section 26?

A. Unless the log shows, I don't know. If the log shows I have read it, but I don't recall it now.

Q. The copy of the log which is handed me by Mr. Anderson says, "4½" casing perforated from 3498 feet to 3300 feet with Hanst perforator, four holes to the foot, ¾ of an inch by ¼ of an inch." Did you observe that when you saw that log?

A. Probably I did.

Mr. Mills: Let me have those other wells.

Mr. Lewers: Which one do you want?

Mr. Mills: I want them all.

Mr. Lewers: Call for the one that you want and I will give it to you.

Mr. Mills: All right. Give me the one on the southwest quarter of 24 in 30-23. (Log of well is handed to Mr. Mills.)

Q. Mr. Luke, will you examine this paper which has been handed me by Mr. Anderson and state whether that is the copy of the log which you examined?

A. I think it is. I made no special notes on them to be absolute, but I think that is the copy of the log that I gave Mr. Anderson.

Q. Who told you to give these logs to Mr. Anderson?

A. I don't know as anybody told me to. I told

Mr. Anderson that I would get some of these logs and give them to him.

Q. Did you do it at the direction of anybody connected with the Southern Pacific Company?

A. I don't know as I had specific orders to do that. I was supposed to do that. Mr. Lewers talked this matter over with me. I don't believe he gave me any specific orders to do it. [1827]

Q. But it was understood by you that Mr. Lewers wanted you to give them to Mr. Anderson.

A. Yes; but I don't believe that he gave me specific orders.

Mr. Lewers: If you desire to have it appear on the record, I am able to make an admission.

Mr. Mills: I am satisfied.

Mr. Lewers: That these logs were turned over, as I recollect it, to Mr. Anderson under my direction specifically.

Q. By Mr. Mills: Did you observe at the time that you examined the purported copy of the log of the well known as No. 3 on the southwest quarter of Section 24 of 30-23 of the Associated Oil Company these remarks: "Completed perforating and placed well on pump May 23, 1912. Came in as gusher; settled down to regular production of 100 barrels 20 degree oil and 3,000,000 cubic feet of gas per day." Did you observe that?

A. I probably did. I don't recall it.

Q. Why was it if you observed that that you were willing to place on this map and represent this well as a well showing oil and not producing?

A. The well was not producing when I saw it.

Q. There was information, was there not, on the very copy of the log itself that this was in fact a producing well if permitted to produce, was it not, to your mind?

A. No.

Q. A well which came in as a gusher, settled down to a regular production of a hundred barrels a day of 20-degree oil and 3,000,000 feet of gas per day,—did that indicate to your mind at all that that well was a well which you should indicate, to be fair about this map, as a producing well if permitted to produce?

A. That indicated that the well had been a producing well. It was not producing when I saw it and therefore, I put it down the way I saw it. [1828]

Q. As a scientific man, did that indicate to your mind that that part of the Elk Hills was oil territory and good oil territory?

A. No; it did not. If the well was a producer it would have been producing.

Q. If the Associated Oil Company puts on its own copy of the log that a well comes in as a gusher on a certain day,—May 23, 1912,—and then settled down to a regular production of a hundred barrels a day of 20-degree oil and 3,000,000 cubic feet of gas per day, that would not indicate to you anything about the character of the lands in this suit, would it?

A. It indicates that there was in that well.

Q. Yes.

A. Exactly.

Q. And a considerable amount of oil and gas?

A. Both oil and gas.

Q. And that to your mind shows that wherever oil is found, when they get deep enough in the Elk Hills to find it, as they did in this well, that they find a considerable gas pressure with the oil? Didn't that indicate that to your mind?

A. It indicated to me just exactly what it said and no more.

Q. Did it indicate to you that there would be considerable gas found and great pressure when oil was found in the Elk Hills at any place?

A. No; not necessarily.

Q. Did not indicate that to your mind as a scientific man?

A. Not necessarily.

Q. Would it indicate to your mind, as one of the witnesses for the defendant has stated, that when oil would be found in the Elk Hills and was actually found, the Elk Hills would be another Spindletop?

A. I don't know anything about that.

Mr. Lewers: Objected to on the ground that the witness has not [1829] testified to anything of the kind, and the assumption is without foundation.

Q. By Mr. Mills: Did you see this log after Mr. Anderson took possession of it?

A. No.

Q. Then, you didn't notice this notation in pen-

cil with the question mark, "After three weeks' production 15 barrels per day"?

A. I don't think I ever saw that.

Q. Do you recall now how much perforation was put on the casing of this well?

A. No; not from memory.

Q. I will read to you now from the statement made on the log handed me by Mr. Anderson: "Perforation by Hanst machine from 3700 to 3100 rows  $\frac{3}{8}$  by 1, 2 holes per foot, from 3100 to 2500 rows  $\frac{3}{8}$  by 1, 3 holes per foot." Did you observe that when you looked at this log?

A. Possibly I did.

Q. That would be a perforation of 1200 feet of casing—from 3700 feet to 2500 feet?

A. Yes.

Q. The drilling of that well was finished, according to this log, on August 26, 1912. Is that correct?

A. I don't recall from memory. If the log states so I should say it was.

Q. And commenced on July 9, 1910?

A. Yes sir.

Q. Would you assume from the statement to which I have called your attention on this log of well No. 3 on the southwest quarter of 24 of 30-23, to-wit: That the perforation had been completed, "Placed well on pump May 23, 1912; came in as a gusher; settled down to regular production 100 barrels 20-degree oil and 3,000,000 cubic feet of gas per day", as the witness Mr. Ochsner, produced by the

[1830] defendant railway company in this case. on page 4503, assumed that the Elk Hills when oil would be discovered would be another Spindle Top, the same as the Buena Vista Hills?

Mr. Lewers: I object to the question on the ground, first, that it is not cross-examination of any matter brought out in the witness's testimony and, second, that it is a partial and, for that reason, unfair statement of the testimony of the witness referred to, Mr. Ochsner, in that counsel permits from his question an assumption made by him prior to that that if Professor Owen had thought that there was oil in the Elk Hills he might have thought it would be a Spindle Top. The entire thing was speculative.

Q. By Mr. Mills: Do you know what Mr. Ochsner, the witness, meant by the use of the word "Spindle Top"?

A. Yes sir.

Q. That is, a dome-shaped structure full of oil which when tapped would produce a gusher?

A. Yes; the Spindle Top field in Beaumont, Texas.

Q. Were you present when he testified?

A. I don't remember whether I was or not. I heard part of his testimony.

Q. Did you hear me ask him this question: "In other words, it was your understanding of his" (meaning Professor Owen's) "remark, that if oil was found either in the Buena Vista Hills or the

Elk Hills, either one of them would prove to be another Spindle Top", and Mr. Ochsner replied, "Would be a large producer; yes." Did you hear me ask him that question and hear him make that reply?

A. I don't recall. I might have, but I don't recall it now. It might have been done. I might have been present and I might not. I was not there all the time while the examination was going on.

Q. Do you regard 3,000,000 cubic feet of gas per day as a large production or a small production of gas in the West Side field in this state? [1831]

A. Quite a production of gas.

Q. Do you regard it as a large or small production of gas?

A. Oh, I shouldn't say large in comparison with some that go twelve or fifteen million, and I wouldn't say small in relation to those that go a million or less.

Q. What would you say as to the average?

A. Fair.

Q. You would say it was fair as an average production of gas in the West Side field?

A. Yes, what little I know about that.

Q. What is the average production of gasers in the West Side field?

A. You will have to swear another witness.

Q. As a matter of fact you don't know, do you?

A. No sir.

Q. Did the derrick and the immediate vicinity

give evidence of the truth of the statement that that well, as stated on this log, came in as a gusher?

A. Yes sir; the derrick was black and there was oil on the ground for a short distance around the well. That looks like it had sprayed over.

Q. Did you hear the gas at the time you were there?

A. No.

Mr. Mills: Mr. Lewers, let me have the other logs on 24. Let me have the one on 30, 30-24. (Mr. Lewers hands Mr. Mills logs.)

Q. Where did you get the logs of the wells or the copies or purported copies shown on Section 30 of 30-24 of this map?

A. They came from the same source; from the Associated Oil Company through Mr. Jeffries.

Q. Mr. Jeffries is a special agent of the Southern Pacific Company, is he? Or, what is his position?

Mr. Lewers: We have no special agents. [1832]

A. I don't know what his title might be.

Q. By Mr. Mills: He is a detective?

A. No; decidedly not.

Q. What is his business?

A. He has been assisting in gathering some of the data in this suit.

Q. For the defendant company?

A. For the Southern Pacific Company.

Q. Is he connected as you are with the Southern Pacific Railroad Company land department?

Mr. Lewers: He is on special employment with

the law department but associated in this work in connection with Mr. Luke. You can call him an employee either of the land department or the law department. It is hard to say just what he is except that he is a mighty good man.

Mr. Mills: I agree with the latter part of the statement. He has been very clever in getting these logs, I must admit, from the Associated.

A. That is the easiest thing we have to do,—get logs.

Q. While we are on the subject of the case, did you get the logs from the Reward or Resolute Oil Companies?

A. I don't know.

Q. You would have got them if you asked for them?

A. Where are they?

Q. They are in part subsidiaries of the Southern Pacific Company. At least, the Southern Pacific Company owns forty per cent of the capital stock of those companies, doesn't it?

A. I don't know.

Q. Did you observe on the log of well No. 2 on the southwest quarter of Section 30 of 30-24 that from 2470 feet to 2722 feet there was a showing of sandy shale, blue shale, and sands showing oil and gas, at the time you examined that Log? [1833]

A. I probably did.

Q. Did you observe particularly a statement on that log that from a distance of 2711 feet to 2722 feet,

or about 11 feet, there was a statement of hard oil-sand showing lots of oil and light gravity oil-sand?

A. Probably I observed it when I looked the log over.

Q. And that there was one interval from 2635 feet to 2710 feet, or a distance of 75 feet, making a good showing of oil?

A. I probably observed that too.

Q. What was the condition of the derrick when you saw it on this well?

A. Black.

Q. Did it indicate to you that it came in as a gusher?

A. Possibly it had; yes.

Q. Well, you heard that up there in the field?

A. Yes sir.

Q. It was generally known that that well did come in as a gusher?

A. I believe it did.

Q. And that it flowed for several days before sanding up or being capped down, at the rate of 406 barrels a day?

A. I have heard that statement made here in the court-room many times.

Q. Did you know that from any statement that you heard from people up there in the field?

A. No sir.

Q. Did you also hear at that time from anybody connected with the Associated Oil Company that that well was put on a gauge when it first came in

and was flowing at the rate of five thousand barrels a day?

A. I did not.

Mr. Lewers: Did you, Mr. Mills? [1834]

Mr. Mills: Yes, Mr. King made the statement, as I will show; that it flowed at the rate of 5,000 barrels a day when it first came in. I may be mistaken about this particular well, but it was one of those three wells that we are talking about.

Mr. Lewers: Perhaps the Oil World said that.

Q. By Mr. Mills: Did you observe the statement on this log to the effect that the initial production was at the rate of 72 barrels at 2600 feet, of a gravity of 25 degrees?

A. Yes; I suppose I did.

Q. How much of a sump was there at that well?

A. There was a small sump; I couldn't say what the cubical contents of it would be. There was very little oil when I saw it last or, in fact, at any time when I was there.

Q. During your visits there last fall, did you observe a pipe-line running from any one of these wells—a 4-inch pipe-line—down towards Fellows?

A. There was a pipe-line going down the hill from Section 26.

Q. Section 26, 30-23?

A. Yes sir; there is a pipe-line that runs down from there to Fellows.

Q. How many miles is it from there to Fellows?

A. I think possibly eight or ten miles, I guess, over there.

Q. What is the diameter of that pipe?

A. I didn't measure the pipe, but I would say it was a 4-inch pipe from looking at it.

Q. Where does it connect? At the reservoir tank?

A. I never made any particular examination to know where it did connect, but it runs right there by the tank.

Q. What was that tank used for?

A. An oil tank.

Q. A storage tank for oil taken from the wells?

A. I don't know where the oil is taken from. It is a small [1835] tank probably twelve feet in diameter by ten feet high.

Q. And this 4-inch pipe connects with that tank and runs to Fellows?

A. It appears to, with the well on 30 and one on 26 and one on 22. I took it that it was a fuel line for those wells.

Q. Do you mean to say that it was your opinion that that was a fuel line to run oil from Fellows up there?

A. That was my idea. I didn't give it any other thought.

Q. Do you entertain that opinion now, Mr. Luke?

A. Yes sir; I haven't thought about it since.

Q. Don't you know as a matter of fact that that pipe was for the carrying of the production of those wells?

A. No sir; I do not.

Q. What would it cost to lay a 4-inch pipe for a distance of twelve miles?

Mr. Lewers: Objected to as not cross-examination and that it is taking up unnecessary time in what is purely a fishing expedition.

Mr. Mills: Your witness that you produced has volunteered a statement that I want to cross-examine him about.

Q. As a matter of fact, Mr. Luke, pipe such as that would cost in the neighborhood of twenty to thirty or forty thousand dollars to lay for that distance?

A. Possibly it would.

Q. And you know from what little knowledge you have of the well business that that was an absurd statement on your part that the company would expend forty thousand dollars to pump fuel up to those three wells from a distance of twelve miles, from Fellows, at an outlay of forty thousand dollars?

A. They had considerable more than three wells to furnish oil to.

Q. You now realize that that is an absurd statement, don't you? [1836]

A. No, I do not.

Q. Did you see any pumps in the sump-hole on well No. 1 in Section 30, 30-24?

A. Yes sir.

Q. How many pumps?

A. I saw one that I recall now. There may have been more. I saw one pump there.

Q. Connected with the oil in the sump-hole?

A. There wasn't any oil in the sump-hole when I was there. Oh, yes, there was probably a bucketful right in the bottom. There was a pipe from the pump down into the sump-hole.

Q. Did you hear any gas escaping there at that time when you were there?

A. No sir; I did not.

Q. Was the well capped at the time you were there in the field?

A. I couldn't say, as I didn't go into the derrick.

Q. And you don't know whether it was locked?

A. No; I drove right by.

Mr. Mills: Now, let me have the logs on 22. (Mr. Mills is given logs.)

Q. Did you observe on the copy of the log which was handed you of well No. 3 on the southwest quarter of Section 22, 30-23, the statement that from 2710 to 2980 feet showed gas and then immediately following, "Started to set No. 28 casing. Were instructed to suspend work August 26, 1911"?

A. I observed that, probably.

Q. Did you observe on the log of well No. 1 in Section 22 of 30-23 that at a distance of 610 to 614 feet there was a showing of gas, from 695 feet to 705 feet there was a showing of gas, that from 720 to 750 feet there was a showing of gas, and from 810 to 828 feet there was a showing of gas?

A. I probably did, yes, when I read the log.  
[1837]

Q. That well was only continued to a depth, as shown by your map, of 1480 feet?

A. Oh. I thought you was speaking of the well in the northeast quarter. The southeast quarter, you said. Yes; 1480 feet.

Q. Yes. The well known as well No. 4 on the same section, that is, 22, 30-23, was continued, according to the log furnished you, to a distance of nearly 1185 feet. Is that right?

A. Yes.

Q. And had no showing at all of either gas or oil?

A. I believe not.

Q. The log furnished you of well No. 1, on Section 24 of 30-23 showed that drilling commenced on June 27, 1910, and continued until July 8, 1910, when it was suspended, and work was resumed December 26, 1911, and closed down January 15?

A. 1912.

Q. That date is not here. Is that correct?

A. I believe that is correct, as the log shows.

Q. That well only went to a depth of 95 feet?

A. Yes; just spudded in.

Q. The well No. 2, on the northwest quarter, went only to a depth, according to the log furnished you, of 1291 feet. Is that right?

A. Yes; I believe that is correct.

Q. And according to the log furnished you, there was no showing of either gas or oil? Is that correct?

A. I believe so; yes sir.

Q. And the well on No. 4 of Section 24, same

township, went to a depth of 1187 feet. Is that right?  
According to the log furnished you?

A. That is according to the log, as I recollect it.

Q. And there was no showing of oil or gas on the  
log furnished you? [1838]

A. No.

Q. Referring to the logs on wells 2, 3 and 4, on  
Section 26, they also were shallow wells, all of them,  
were they not?

A. Yes.

Q. The deepest being 518 feet and the shallowest  
332 feet?

A. Yes.

Q. They hardly got through the surface forma-  
tion?

A. Probably not.

Q. The log of well No. 2 shows that work com-  
menced on December 15, 1910? Is that right, or is  
that 1911?

A. Just a minute. I have a pencil mark here  
that will show. Well No. 2 commenced December  
15, 1910.

Q. And work was suspended on that well on—

A. March 4, 1911, I believe.

Q. January 17, 1911.

A. I have a pencil note here that it ceased March  
4, 1911.

Q. Well, the log, here, of No. 2, shows January  
17, 1911. Is that correct?

A. Well, that is possibly correct; yes sir.

Q. And on well No. 3, of Section 26, work commenced on January 26, 1911, and was suspended on February 23, 1911?

A. Yes.

Q. Is that right?

A. I believe that is correct.

Q. And on No. 4 work commenced December 31, 1911, and suspended February 23, 1911?

A. I believe that is right, according to the best information I have.

Q. Referring, now, to wells 3 and 4, of which the logs, as I understand you, Mr. Luke, furnished by the Associated Oil Company through Mr. Jeffries showed depths, respectively, for well 3, 445 feet and for well 4, 441 feet, on Section 30 of 30-24. [1839]

A. Yes sir.

Q. Do you recall whether there was any showing of gas or oil on those logs?

A. I believe not. They were just through the surface; they hardly got down at all.

Q. So that, as to all of the Associated oil wells, the logs of which you examined, or, at least, the purported copies of the logs which you examined, which went over three thousand feet, showed considerable production of oil, did they not, on the log itself?

A. They didn't show a considerable production. They showed that they produced oil.

Q. Well, didn't they, on the logs themselves, as they have been read into this record, now, show a

considerable production of oil wherever the well went over three thousand feet?

A. They didn't show how much oil the wells produced. The wells might have produced only a hundred barrels of oil, and that in one day, and that ended it; and that would not show considerable production of oil.

Q. And wherever the well went from fifteen hundred feet on, that is, was drilled to a depth of at least fifteen hundred feet and beyond, it showed gas or oil at some stage from fifteen hundred feet on?

A. Some of them showed gas.

Q. And all of them showed oil from that time on, did they not, beyond fifteen hundred feet?

A. Just a minute—

Mr. Lewers: I submit the logs will speak for themselves.

A. No. The well on, I believe, the southwest quarter of Section 22 didn't show any oil.

Q. By Mr. Mills: Didn't show any oil on the log?

A. I believe not. It went to 2980. I don't recall its [1840] showing oil now

Q. Let me have 22, now.

A. It showed some gas, I believe, but that was all. I don't think there was any oil in that well.

Mr. Lewers: It showed some water. (Hands log to Mr. Mills.)

Mr. Mills: I object to that interjection by counsel.

Q. That well showed gas, however, did it not?

A. I think it did.

Q. And all the other wells that were drilled less than three thousand feet and more than fifteen hundred feet showed either gas or oil, did they not?

A. There is only two, or three.

Q. Well, they showed gas or oil?

A. Yes sir.

Q. And, after they passed three thousand feet, showed an enormous production of oil in some instances, did they not?

A. Well, your term "enormous"—is all right, yes; say they did show an enormous production of oil.

Q. So far as they were permitted to flow or until they sanded up, they showed an enormous production of oil?

A. I don't know what stopped them.

Q. Neither do I. I am asking you.

Q. I say I don't know. Didn't I?

A. Yes; I believe so. In fact, I am almost positive of it.

A. Positive; yes.

Q. Now, going over—in a very brief interval—over to the Scottish Oil Fields Limited, you say that you got your information from the log which was introduced in this case as to that well.

A. And from information furnished me by Mr. Lang, who also introduced the same depth in this case.

Q. Now, going over to the Redlands Oil Company,

on Section 30 of 30-23, you show a well there on the northeast quarter. Where [1841] is the log of that well?

A. I believe that a copy of that log was given to Mr. Anderson. I think so.

Mr. Mills: Have you the log of that well, Mr. Anderson?

Mr. Anderson: Yes.

Mr. Mills: May I have it, please? (Produced.)

Q. Before I ask this question, and lest I forget it, let me ask you: On all of these logs that you have, they are all printed on the same form, apparently. Where did you get that form for the copies of these logs? What form is that?

A. These forms that we have just been going over are the Associated Oil Company's forms.

Q. And these blanks were furnished by the Associated Oil Company, were they?

A. Why, I suppose they were. The logs came to me as you see them.

Q. Well, now, here is the same kind of form.

A. Yes.

Q. Where did you get that form?

A. That log was furnished me—I think, I am sure, that log came from the Kern Trading and Oil Company.

Q. This is the regular form, is it not, of the Kern Trading and Oil Company?

A. Well, I don't know as it is.

Q. Well, it is the regular form?

A. It is in common use all over the field. The Associated use it, the K. T. & O. use it, and I have seen it with other firms also.

Q. It is the form used by the Southern Pacific Company in respect of the operations of its oil subsidiaries, is it not?

A. Well, I can't say as to that.

Q. That is, it is used by the Associated Oil Company and used [1842] by the Kern Trading and Oil Company?

A. I have seen them both use that form, yes. I think it is their general form. Whether they have others or not I couldn't say.

Q. This well known as well No. 1—

A. I don't know whether it ever had a number or not.

Q. It has a number up here, "No. 1"? On the northeast quarter of 30, in 30-23, had an oil showing at a depth of 2720 feet to 2750 feet, in 30 feet of brown sandy shale; and also a showing of oil in brown shale from 2750 feet to 2780 feet, or an interval of shale of a thickness of 60 feet with a showing of oil at that depth. Did it not?

A. I have heard that disputed on the stand.

Q. I am asking you whether the log which you consulted didn't show that, or not.

A. I don't recall whether it did or not. I believe it did, though. If it did, I have consulted it.

Q. Yes. Well, then, why is it that you designate that as a dry hole?

A. Because the best information I was able to obtain from men who were there while the hole was drilling was that the hole was a dry hole.

Q. Now, isn't it a fact that the log itself shows that there was a showing of oil for a distance of sixty feet, from 2720 to 2780?

A. The log may show that.

Q. Then you should not have represented this well as a dry hole entirely, should you?

A. Well, yes, after what other information I was able to obtain from Mr. Lang and the testimony of Mr. Griffin and others in this same case.

Q. Why didn't you use the symbol which you used to designate [1843] wells showing oil and not producing?

A. Because I consider the well a dry hole. There was no evidence of oil anywhere around the well.

Q. Well, wouldn't it fit with your description, with that symbol, that it was a well showing oil and not producing?

A. I could not see any showing of oil there.

Q. Don't you see a showing of oil now on this log?

A. Yes, but I had other information I considered better.

Q. Oh, you think information of hearsay evidence, of gossipers around the West Side Field, as better than the log itself?

A. I don't consider the information obtained from witnesses on this stand as gossip.

Q. There is no man who drilled a well on Section 30 of 30-23 who has appeared on this stand to testify, is there?

A. The man who was there at the time it was drilling.

Q. That would seem to indicate that the man who did testify here that there was no showing of oil was either mistaken or testified deliberately to an untruth, when the log itself shows there was a showing of oil?

A. Not at all.

Mr. Lewers—You will recollect that Mr. Lang testified that they thought they had a showing but concluded it was not, it was something else.

A. Those are the facts.

Q. By Mr. Mills—Didn't Mr. Lang, who testified as one of the witnesses on that well, say there was a showing of oil?

A. No sir; I believe not. I believe he said he thought there was a showing of oil. That is what he told me, at least, and that is where I obtained my information from.

Q. As a matter of fact, you followed the log where it would indicate information favorable to the contention of the [1844] railroad company and where it did not you would follow testimony which might be favorable to the railroad company?

A. I tried to arrive at the facts as nearly as I was able to, without reference to where it might be or in whose favor it might be.

Q. Well, wouldn't you ordinarily look for your facts to the log of the well itself rather than to some person who might have been around the derrick and who was not drilling the well?

A. If I saw the log of a well that purported to show oil and saw the well itself with absolutely no showing of oil near it or no indication of oil around it and was in conversation with a man who was there during the time that this purported showing of oil came and he told me that in his estimation it was not oil, I would be tempted to take his judgment in the matter in preference to something that might be written by some one who was not as well informed—that is to say, the man who was present at the time.

Q. In preference to what?

A. To the log, which may or may not have been correct at that time.

Q. Then, in your opinion, the logs of some of these wells are not correct that you have examined?

A. Possibly they are. They are as to depth, probably, which was all I have aimed to show on this map.

Q. Well, you aim to show on this map not only the depth of the well, don't you —

A. Yes.

Q. —but whether the well has a showing of oil or not.

A. Exactly.

Q. Now, here we find that you have examined the log of a well on Section 30 or 30-23, which on its face

shows that [1845] there were 60 feet of sandy shale, or brown shale, with a showing of oil at a depth of 2720 feet to 2780 feet.

A. Yes.

Q. And yet you don't give any credit to that well for a showing of oil on your map?

A. No.

Q. You call it a dry hole, and by that you mean there was no showing of oil, don't you?

A. No oil in the hole. The well never produced any oil at all.

Q. Now, as a matter of fact, if there was a showing of oil, according to this log and the log is true, then you should have designated this well as a well showing oil and not producing, according to the symbol in your legend, should you not?

A. If the well really did show oil, certainly it should have been shown to show oil.

Q. So that if the log is correct, then you have wrongly designated this well by your symbol?

A. If the log is correct. I don't consider the evidence produced by Mr. Lang, though, as incorrect, and Mr. Lang stated there was no oil in the well.

Q. Well, now, are you positive that he said there was no showing of oil at all in that well?

A. They thought they had a showing of oil and it afterwards proved not to be a showing of oil.

Q. You say he so testified in this case?

A. I understand he did. That was my understanding of his testimony as I heard it.

Mr. Mills—Have you any objection to my offering this log in evidence?

Mr. Lewers—I am going to offer every one of them. You have referred to them; they must go in evidence now. [1846]

Mr. Mills—I make the offer now of the purported copy of Redlands oil log on well No. 1 of Section 30 of 30-23, subject to any objection which counsel may want to make.

Mr. Lewers—No objection.

The Log last referred to and offered in evidence is marked "Complainant's Exhibit 4-W—LL."

Q. By Mr. Mills—I understand you now to say that all of these logs of these wells which you got yourself you turned over to Mr. Anderson?

A. Well, all of them I have not got myself.

Q. Well, all that you examined which you got yourself through Mr. Jeffries or from any other person.

A. Yes, I turned over to Mr. Anderson. He has all that I have ever gotten.

Whereupon the further taking of testimony herein was adjourned until 2 o'clock P. M., at the same place.

On Tuesday, February 18, 1913, at 2 o'clock P. M., the further taking of testimony herein was resumed pursuant to the adjournment: Willis N. Mills, Special Assistant Attorney-General, appearing on be-

half of the plaintiff; and Charles R. Lewers, Esq., appearing on behalf of the defendants.

W. J. LUKE, JR., recalled, testified further as follows:

By Mr. Mills:

Q. In your preparation of this map, Mr. Luke, I take it you were looking for the best available evidence of the depths and production of the wells which you have represented on the map? [1847]

A. Yes sir.

Q. Did you take occasion to examine the records in the Visalia Land office, where Mr. L. J. King, superintendent of the Associated Oil Company, and Mr. W. A. Williams, geologist for that company, and other employees and officials of that company and their associates, testified under oath as to the production of the Associated wells in the Elk Hills, particularly as to Sections 24 and 26 in 30-23 and in Section 30 of 30-24?

A. You mean did I take occasion to examine that record?

Q. Yes.

A. Well, I went to the Visalia office and asked the receiver if I might see the record, and was told that not being a party to the case I could not see the record; so I didn't see it.

Q. Who did you see there?

A. I think it was Mr. Store. I didn't see the record.

Q. Well, you knew, did you not, that the Asso-

ciated Oil Company had copies of that record on those three contests?

A. Well, I didn't know that they had, but I supposed that they would have had.

Q. Well, did you take occasion then, when you could not get the record at Visalia, to go to the Associated Oil Company's offices, or their officials, and ask for the record wherein the parties I have mentioned swore to the production of these wells, under oath?

A. No; I did not.

Q. Why didn't you do that, if you were looking for the best evidence?

A. Well, I had no reason for not doing it. I just didn't do it; that was all. Something else came up and I didn't go after it.

Q. Was it, possibly, for the reason that you were directed [1848] not to examine that record for the purpose of getting data for this map?

A. No sir; I was not, absolutely; by no one.

Q. You knew that they had testified in those cases which I have referred to before the local land officers at Visalia in respect of mineral contests made against certain gypsum and fuller's earth locators?

A. I had heard that there had been testimony taken, and that Sullivan had testified and that Mr. King had testified.

Q. Yes; and that Mr. King and Mr. T. E. Barnes, and Mr. Williams, geologist of the company, and a man by the name of McKay as a driller for the Asso-

ciated Oil Company, had offered evidence under oath to show that Sections 24 and 26 in 30-23 and Section 30 of 30-24, were essentially commercially productive oil lands, did you not?

A. I had never heard that Mr. Williams or Mr. Barnes that you speak of—who I don't know at all—or Mr. McKay, had testified. The only man I heard had testified was Mr. King. But of my own knowledge I knew nothing of the matter at all. I had heard very little about the case.

Q. Now, you have the map there. Will you refer to the representation of a well on Section 28, of 30-23, which you call the Hill Crest Oil Company?

A. Yes sir. That is the name I have got for it.

Q. You have placed the depth of that well at 1661 feet.

A. Yes sir.

Q. Where did you get your information of the depth of that well?

A. There was the original log of the well in the cabin there at the house, or at the property; and Mr. Lang, who had charge of the watchman who was looking after the property, said I might go there and look at that log, if I wished, and [1849] that I did.

Q. Did you ever have a copy of that log?

A. I made a copy of it at that time with a pencil.

Q. Where is that copy?

A. I think that that copy was also given—I had it typewritten, and I think that was also given to Mr. Anderson.

Q. Did you have it typewritten on a blank form furnished you by the Southern Pacific Railroad Company?

A. Well, I got the form, I think, from Mr. Taff, of the geological department.

Q. Of the Southern Pacific Company?

A. Yes; and I did the work myself. I think that log was turned over to Mr. Anderson.

Q. Now, was that on the same kind of form as the forms used for the copies of the alleged logs of wells produced this morning by Mr. Anderson?

A. Well, I couldn't say. I have never compared them, and I don't know. I never paid any attention to it.

Mr. Mills—Have you the copy of that log, Mr. Anderson?

Mr. Anderson—I think so.

Mr. Mills—Will you produce that, please?

(Produced)

Q. This form is essentially the same form as the copies of logs produced this morning, isn't it?

A. I believe there is additional data on the back of the Associated forms that is not on those K. T. & O. forms.

Q. Did you observe on this log that for an interval of 40 feet from 720 to 760 feet in depth, the statement that there was blue, gray gas sand?

A. I believe so.

Q. And that for a distance of 28 feet between 1172 and 1200-foot depths, there was a hard gray blue with gas? [1850]

A. I believe so; yes.

Q. And also that there was a statement in this log, between 1210 feet and 1222 feet in depth, for 12 feet there was gray or light blue with gas?

A. Yes sir.

Q. By Mr. Lewers—Light blue what?

A. That is all its says. They mean shales.

Q. By Mr. Mills—That there was another interval of 20 feet thickness, from 1288 to 1308-foot depth, a statement of hard gray with gas, 12½ inch casing landed on shell?

A. Yes.

Q. Also, that for 40 feet after that there is a statement—I should say for 60 feet—a statement of a showing of gas?

A. Yes sir.

Q. That at 1453-foot depth to 1464, 11 feet, there was another showing of gas?

A. Yes sir.

Q. And that between 1635-foot depth and 1642-foot, there was a statement of good showing of gas?

A. Yes sir.

Q. Is that right?

A. Yes. I aimed to make the log an exact copy—make that an exact copy of what I found in the record in the house.

Q. Now, that well was only drilled to a depth, at the time you examined it, of 1661 feet, as shown on your map?

A. That is what the log showed; yes sir.

Q. And commenced drilling on October 24, 1910, and finished on April 2, 1911?

A. That was the record in the log.

Q. Where did you get your information about the well on Section 32 of 30-23, known as the Midway Pacific Oil Company, on the southwest quarter?  
[1851]

A. My information on that well was furnished partly by a man by the name of Welch, who did watching there.

Q. What is his full name?

A. P. W., I believe. He was watching there the first trip I ever made into that country, along in February. I talked with him about the well and asked him what they had done there, and what the depth was; and later on I obtained a copy of the log of the well from the K. T. & O.

Q. By the "K. T. & O", you mean the Kern Trading and Oil Company, defendant in this case, do you?

A. Yes. They gave me a copy of the log that was made from data furnished them by Mr. Carlton, I believe, who had something to do with the company—either president or vice-president; I would not say which.

Q. Furnished to the Kern Trading and Oil Company?

A. Yes; by him.

Q. What was Mr. Welch's business there?

A. He was a watchman, only.

Q. Not a driller?

A. I don't think so, although I would not say.

Q. Where is the copy of that log?

A. Mr. Anderson has that also.

Mr. Mills—May I have that, Mr. Anderson? That is the Midway Pacific Oil Company's well on Section 32 of 30-23, (Produced)

Q. I hold in my hands a copy of the log which Mr. Anderson has handed me, of the alleged original log of this well, the Midway Pacific Oil Company, on the southwest quarter of Section 32 of 30-23. I notice for a depth of 80 feet there is brown shale between 1510-foot level and 1590-foot level, marked "Trace of oil and gas at 1535." Did you observe that, when you—[1852]

A. Yes sir.

Q. Why didn't you place that well under the appropriate symbol on your map, namely, "Wells showing oil (not producing)"?

A. Because the well never showed any oil that I ever heard of. I heard that given later by Mr. Lang, also, that such is not the fact.

Q. Here is the alleged copy of the alleged log, which says that there was a trace of oil and gas at 1535 feet.

A. The well never produced a bucketful of oil and at the present time is not producing any oil, and is abandoned, as far as I know; therefore I considered that the well was a dry hole.

Q. Well, but doesn't it come under your symbol, appropriately, "Wells showing oil (not producing)"?

A. I hardly think so, in that sense of the well, because I meant a well that showed some considerable quantity of oil, that meant something. That was probably no oil at all.

Q. You know, don't you, that the words "showing of oil" or "showing oil" have a common and accepted usage, of definite meaning, in the oil business?

A. Yes.

Q. Namely, meaning a small amount or trace of oil?

A. Not necessarily.

Q. You would not use that expression with reference to a gushing well, would you?

A. No.

Q. But it means, and is accepted by common usage, among oil men in the West Side field, as meaning a trace of oil?

A. As a term indicating a definite show of oil, a definite trace of oil.

Q. Yes. And therefore this log here which you examined, if you believed it to be true, would have been sufficient to [1853] appropriately place that well, at least, under your symbol, "Well showing oil (not producing)"?

A. Well, I hardly think so, because the well never carried a real showing of oil; just carried a showing of a trace, and that was disputed by the men who were asked to examine the well at the time that they claimed that they had that.

Q. Well, who put the word "abandoned" on this log?

A. I have not any idea. Let me see it. (Shown to witness.) I suppose—I don't know. No; I don't know who put that on there. It is not my writing; it is not my machine that did that work. That is the copy as I got it. So, I don't know who made it.

Q. And that was not on the log you got, either, was it?

A. That is the paper I got, as I recollect it.

Q. This very paper here?

A. I think so.

Q. Did you get this data from Mr. Carlton?

A. No.

Q. Who did you get it from?

A. I got it from the Kern Trading and Oil Company.

Q. Well, who did you get it from from the Kern Trading and Oil Company?

A. I don't recollect whether I got it from Mr. Taff or not. I would not say for sure whether Mr. Taff gave it to me or whether I got it in the Sunset office. I would not be sure. One of those parties gave it to me. It might have come from the Sunset office. I would not swear to it.

Q. Now, referring to Section 2 of 31-23, you have actually shown there 1829 feet in the southeast quarter?

A. Yes sir.

Q. Known as "Combination Midway"?

A. Yes sir. [1854]

Q. Where is the log of that well?

A. I have not got the copy of that well—or the log.

Q. Where did you get your information about that?

A. Mr. M. S. Robertson, who is the secretary of the company, told me the well was that deep, and showed me a copy of it.

Q. Just a moment. You don't want to volunteer information here, do you, that you are not asked about? I asked you where you got your information.

A. And I told you.

Q. And in addition to that you told me what the man told you; which is objectionable.

A. Very well; cut that out.

Mr. Lewers—No; I submit it is responsive, and I ask it to stand.

Q. By Mr. Mills—Now, we can get along all right if you just answer my questions. You say you got this information from Mr. Robertson?

A. Yes sir.

Q. What is his full name?

A. M. S.

Q. Who is he?

A. He is the secretary of the company—or told me so.

Q. And therefore you got that on hearsay, didn't you?

A. He showed me a copy of the log.

Q. He showed you a copy of the log?

A. Yes sir; he showed me a copy with his figures on it.

Q. And you had no original at all—just a copy of the log?

A. No; I don't believe it was an original; I believe it was only a copy.

Q. On Section 1, of 31-23, you have a well represented as 795 feet deep, over the caption "Carmen Oil Company." [1855] Have you got the log of that well?

A. I turned that log over to Mr. Anderson.

Mr. Mills—Will you let me have that log, please, Mr. Anderson?

Q. While Mr. Anderson is looking for that, I want to refer again to the "Combination Midway" well. That log which you examined showed trace of oil and gas in several places, did it not?

A. No sir.

Q. From the 1700-foot level on?

A. No sir.

Q. Did it not?

A. Not that I recollect of.

Q. From 1710 feet on, did it not show oil and gas?

A. Not to my knowledge.

(Mr. Anderson produces log requested.)

Q. Are you now prepared to state definitely under oath that it did not show a trace of oil and gas beyond 1700 feet?

A. To the best of my recollection, it did not.

Q. You are not positive about that, are you?

A. Just as positive as I could be in the matter without having the log in front of me to refresh my memory on. It is several months ago that I saw it. But I made a note to that effect in my note-book when I looked at the log.

Q. Now, recurring to the well known as the Carmen Oil Company's well, on Section 1 of 31-23, did you observe, from the alleged copy of that log, that at 625 feet to 630 feet, the statement, "Gas and sand blow-out"?

A. I believe that statement is there.

Q. That from 645 feet to 650 feet, "Gas and sand 5 feet"?

A. I believe that is there.

Q. That from 652 feet to 670 feet, an interval of 18 feet [1856] of gas and sand?

A. Yes sir.

Q. That from 670 feet to 745, blue shale, goes gas for an interval of 75 feet?

A. If that is there, I observed it.

Q. Well, look and see whether it is there. I am not misquoting it in any way.

Mr. Lewers—I submit the log is the best evidence, and I ask that the log be put in evidence, and insist upon it if it is used as the basis of questions.

Q. By Mr. Mills—So that, from 625 feet to 795 feet, where the drilling stopped, or a distance of 170 feet, thereabouts, there was blue shale, sand or gravel, with strong evidence of good gas?

A. That is what the log states.

Q. That was a pretty good showing, was it not, for a well which was only 795 feet deep, in your opinion?

A. It would depend entirely upon the condition of the gas, what the gas was, and all about it. To me, I would want to know more about it than just that.

Q. Now, on Section 11, of 31-23, you show what is known as the Midway National well. Have you the log of that well?

A. I have not. I have never been able to get the data on that well.

Q. I notice you don't put down any depth for that well.

A. I don't know the depth of the well.

Q. Do you know that it is 1200 feet deep?

A. No; I don't. I don't know the depth of it.

Mr. Lewers—Do you know it is 1200 feet? We might correct the map right here.

Mr. Mills—I have a notation it is 1200 feet, reported as 1200 feet. [1857]

Mr. Lewers—Where did you get that information, Mr. Martin? We might as well have it on the map and have the map as complete as possible.

Mr. Mills—I don't know that Mr. Martin gave me the information.

Mr. Lewers—I judged by Mr. Martin's peculiar smile, that he did.

Mr. Mills—I will state that it has been reported as 1200 feet deep. I don't know whether it is or not.

The Witness—I really don't know. I never could find the people who drilled the well, and I could not find out anything about it.

Q. By Mr. Mills—In Section 7, of 31-24, there is a well represented on your map, of the Elk Hills Oil Company, 3435 feet deep. Have you the log of that well?

A. Yes.

Q. Where is it, Mr. Luke?

A. I gave that log to Mr. Anderson.

Mr. Mills—Will you give me that log?

The Witness—I had two logs of that, if I remember right.

Q. Well, you had better give me one of them.

A. I rather think that that is on this map here is of the shorter well.

Q. You mean there were two wells there?

A. No, but two logs I got. One was 3435 and the other 3900 and something. And I believe—I am not sure—

(Log produced by Mr. Anderson.)

The Witness—I took my data from the log that was not completed; and later I got that and turned it over without correcting this map.

Q. Referring to this alleged log which Mr. Anderson hands me? [1858]

A. Yes.

Q. By Mr. Lewers—Does that show a greater depth?

A. Yes; shows a depth of 500 feet greater.

Q. By Mr. Mills—Is this substantially the same as the log which you examined, with the exception of the addition of depth?

A. It is. It is the same log with the addition of the other 500 feet. My log was incomplete.

Q. Then you observed, did you not, in the preparation of this map, that for a distance of 32 feet, between depths 2558 and 2590 feet, there was black shale, showing of oil and gas?

A. Yes; that is there, I believe.

Q. And also, for a distance of 14 feet, between 3020 and 3034 feet, there was sand, showing oil, gas and salt water? Is that correct?

A. Yes sir.

Q. Did you also observe, on this last log which you examined and which I hold in my hands, the statement, "Casing S. P. landed at 592 feet, 12½ inch landed at 1244 feet, 8 inch casing landed at 3015 feet, 6¼ inch landed at 3250 feet with rotary, later carried to 3915 feet. Standard 4½ inch landed at 3914 feet, 665 feet of perforation, water broke in at 2700 feet, cemented at 3250 feet but not successful"? Did you observe that?

A. Yes; I remember that.

Q. Now, in view of the showing of that well, Mr. Luke, namely, that there was a showing of oil and gas for a distance of 500 feet, about, why didn't you put that under the appropriate symbol in your legend, that it was a well showing oil but not producing?

A. Because the showing was so slight that I didn't consider it as a showing of oil. There was no evidences at the [1859] derrick on the ground there to indicate that the well has ever produced any oil.

Q. Well, but that symbol does not require it to have produced oil. You particularly state in that symbol "not producing," don't you?

A. Yes.

Q. Now, which is it—did you want the court to understand by your symbol that a well which you designated as a well "showing oil (not producing)" was in fact a well which actually produced oil at some time?

A. A well showing oil not producing? I wanted to show exactly what it states.

Q. Read the question. (Last question read by the Special Examiner.)

A. No; I wanted it to show that it was a well that was not producing oil.

Q. At the time you visited it?

A. Up to the first of this year, when this map aims to bring the data down to.

Q. But, taking your symbol for what it stands for, without any explanation by you, the record, as shown by the log of this well in Section 7 of 31-24, actually brings that well within the symbol, "Wells showing oil (not producing)", doesn't it?

A. Well, there was a showing of oil in the well, probably, according to that log.

Q. And it was not producing?

A. Just a trace of oil.

Q. And it was not producing?

A. It never did produce.

Q. And therefore it comes within that symbol, fairly, doesn't it? [1860]

A. Well, in one sense of the word it may; but in my idea of that symbol, the idea being that the well didn't do anything in the way of a showing of oil other than just a mere trace which might have occurred from one point or another. It may not have been in the sands at all.

Q. Well, does not the log itself show that it was in the sands for several hundred feet, and does not the log also show that over 600 feet of casing was perforated?

A. Yes.

Q. What would that indicate to your mind? That they were in oil-sand?

A. They were trying to find oil when they perforated.

Q. And that they had actually found oil?

A. They didn't get any, according to that.

Q. And doesn't it also show that the water broke in at 2700 feet and that they attempted to cement up and were not successful because of that failure to cement?

A. The log shows that.

Q. And fairly indicates that the well would have been a successful, producing well if they hadn't had that trouble?

A. I don't think so.

Q. And yet you are willing to put that down under your symbol as a dry hole?

A. Yes.

Q. With no showing of oil at all?

A. Yes sir.

Q. When, in fact, the log shows it showed oil for 500 feet.

Mr. Lewers—I submit the log speaks for itself. It does not show that.

A. Let the log speak. The log is in evidence. Let it go for what it says.

Mr. Lewers—No, the log is not in evidence yet; but it [1861] will be.

Q. My Mr. Mills—You admit, at least, that the map does not correctly describe that well as to depth?

A. No; it does not. The well is deeper than that.

Q. Now, I refer to a well on the northeast quarter of Section 5, of the Associated Oil Company.

A. Yes sir.

Q. Where is the log of that well?

A. Mr. Anderson has a copy of the log.

Mr. Mills—May I have that, Mr. Anderson—Section 5, of 31-24?

Mr. Lewers—Please make a notation correcting the depth on that former well on the map, Mr. Luke.

The Witness—Yes. (Marks on map.)

Q. By Mr. Mills—Referring to the well shown on your map on Section 5, of 31-24, Associated Oil Company, depth of 2780 feet, is this alleged copy of a log

which Mr. Anderson hands me, the one which you examined?

A. Yes sir.

Q. Did you ever see any other log excepting that?

A. No; I never have.

Q. I notice here that at the level of 520 to 540 feet there is a statement of sand 20 feet in thickness, of which the last 15 feet had a showing of gas. Did you observe that?

A. I think so.

Q. Did you observe on any log which you examined of this well, if any, besides this log, that there was a statement to the effect that this was the largest discovery of gas ever made in the Elk Hills?

A. That is the only log of the well I have ever seen, and I never discussed the well with any one, so my knowledge of the well is confined to what data I got from that log. [1862]

Q. Where did you get this log?

A. That came from the Associated Oil Company, through Mr. Jeffries, I believe; that is, he handed it to me.

Mr. Mills—Will you produce the original of this log, Mr. Lewers, of Section 5 in 31-24?

Mr. Lewers—Well, I personally have no control over it.

Mr. Mills—I have reason to believe that the original log does not check with the log which has been handed me by Mr. Anderson.

Mr. Lewers—Mr. Jeffries, make a note of that and look it up.

Q. By Mr. Mills—You don't know of your own knowledge, Mr. Luke, that the log which has been handed me by Mr. Anderson, of Section 5, 31-24, is an exact copy of the original log of the Associated Oil Company for that well, do you?

A. No; I don't know it of my own knowledge. I didn't see the copy made.

Q. And do you know where the copy was made?

A. No; I don't. I presume in the offices.

Q. And you say the same of all these logs that we have been discussing where you produced copies and haven't seen the original log? You don't know whether it is an exact copy or not, do you?

A. No. I have no way of knowing.

Q. That is true of all the logs of which you have only seen copies and to which you have testified?

A. Yes sir; with the exception of the Hill Crest log.

Q. By Mr. Lewers—And also the Scottish? The original of that was here?

A. Yes.

Mr. Mills—I might state in the record that I shall introduce the copy of the log furnished by Mr. King, of the original [1863] log of this identical well, in which it will appear there is a discrepancy between the two copies.

Mr. Lewers—Well, I suggest you produce it now, so that we will have them side by each.

Q. By Mr. Mills—This well was drilled in part by standard tools and in part by a rotary, that is to say, the rotary was drilled from the 1300-foot level on?

A. I believe that is what the log shows.

Q. This well commenced drilling July 10, 1910; and do you know when it was finished?

A. No; I don't. I have a note that they suspended August 25, 1911, on that well.

Q. Now, referring to Section 8, of 31-24, the well you have represented as being on the northeast quarter, 1890 feet, Elk Hills Oil Company. Will you produce the log of that well?

A. Mr. Anderson has the copy of that log, also.

Mr. Mills—Will you get that, Mr. Anderson? That is on Section 8, 31-24, of the Elk Hills Oil Company.

Q. While we are waiting for that, Mr. Examiner, I would like to ask the witness this question: On the well which we have just discussed, on Section 5, the Associated Oil Company, you have placed it under the symbol, "Dryhole, not working or abandoned"?

A. Yes sir.

Q. Is that well abandoned?

A. Well, I can't say as to the fact of its being abandoned. The rig still stands, as much as I know, but there is nothing doing on the well. There was no work going on there, and has not been since 1911. Whether they intend to continue or not I can't say.

Q. Were you ever told that they had abandoned that well?

A. No. [1864]

Q. You simply mean that it comes within one or the other of the alternatives?

A. Yes sir.

Q. Either not working or abandoned?

A. Yes. It is not working, because it was not working when I saw it.

Q. How do you know that it is not working? Where did you get that?

A. I saw it. I was there.

Q. You went there?

A. Yes sir; I have been there.

Q. When was it not working?

A. In November.

Q. What year?

A. Last year; 1912.

(Log produced by Mr. Anderson.)

Q. Is this purported copy of a log which I hold in my hands, handed to me by Mr. Anderson, the one which you examined and from which you got your data?

A. Yes sir.

Q. On Section 8, of 31-24?

A. Yes sir.

Q. Is this all you know about that well—what you got from this sheet?

A. That is all, except that I have been at the property there, at the well.

Q. Where was this copy made? This appears to be one of the usual forms—329.

A. I think that came to me from the Associated Oil Company.

Q. By whom?

A. By Mr. Jeffries.

Q. This well shows that at 430 feet there is gas discover- [1865] ed. Do you recall that?

A. Yes; if it is there I have seen it.

Q. And at what depth had the well been sunk at the time you visited it when it was either abandoned, as you say, or not working?

A. Well, they were apparently doing nothing with the well when I saw it in November, and I suppose it was at its present depth, 1890 feet.

Q. Well, where did you get the depth 1890 feet? The log itself, or the alleged copy, seems to stop at 1740.

A. You will find a pencil notation under there 1890. I believe.

Q. Yes.

A. That was on the log when I got it.

Q. Whose writing was that?

A. I can't say. It came from the office of the Associated. Whether it was Williams' writing or not, I don't know.

Q. This log does not show the different thicknesses of shales and clay and sands, and so forth. Do you know what this notation here, "772 C, 68," means, on the side?

A. I do not. Possibly it has reference to some filing system.

Q. Do you know whether this is an exact copy of the original log of that well?

A. No sir.

Q. Now, on Section 18 of 31-24, have you the log of the well on the north half of that section, designated at 1860 feet?

A. No sir.

Q. Have you ever seen the log of that well?

A. No sir.

Q. Then, what you have here was entirely from hearsay, from something some one told you? [1866]

A. Yes sir. Mr. W. H. Cooley.

Q. Now, I didn't ask you who the man was. I asked you if it was entirely from hearsay.

A. It was.

Q. And you were not permitted to see the log, were you?

A. He didn't have it when I saw him.

Q. And you never saw the log?

A. I have never seen the log.

Q. Now, there is another well south of that, on the south half of that section, 540 feet. Have you a copy of that log?

A. No sir.

Q. Did you ever see the log?

A. No sir.

Q. And your information as to the depth and the condition of that well is from hearsay?

A. Yes sir.

Q. On Section 4 of the same township, Green &

Hutchinson well, 2355 feet deep. Have you the log of that well?

A. Yes; or, at least, I turned the copy of the log over to Mr. Anderson.

Mr. Mills—Mr. Anderson, will you give me that log, please? That is on Section 4, of 31-24. (Produced.)

Q. Is this copy, or alleged copy, of a log of well on Section 4, 31-24, which Mr. Anderson hands me, the basis of your information about that well?

A. As to its depth, yes sir, the conditions.

Q. This so-called log is incomplete, in that it does not show anything before 203 feet. Is that correct?

A. Yes.

Q. Did you observe that at 310 feet there was a strong pressure of gas shown on this well?

A. Yes. [1867]

Q. Where they installed 12½ inch casing?

A. Yes.

Q. And from that depth on until the well reached 705 feet there was still gas pressure through those sands?

A. I did.

Q. For a distance of approximately 400 feet?

A. Yes sir.

Q. This log shows that the well commenced drilling August 18, 1910. When was drilling discontinued?

A. I don't know. I have no note that shows when that drilling was discontinued.

Mr. Lewers—I think Mr. Green's testimony shows.

Q. By Mr. Mills—Do you know whether this copy which Mr. Anderson hands me is an exact copy, full and complete, of the original log of that well?

A. Yes sir.

Q. Where did you get it?

A. It came to me from the Associated.

Q. The Associated Oil Company?

A. Yes sir.

Q. In the same connection, Mr. Luke, you have noted a well of Potter, Reed & Taylor?

A. Yes.

Q. 1050 feet. Have you the log of that well?

A. Yes. That is, Mr. Anderson has the copy.

Mr. Mills—May I have that, Mr. Anderson? (Produced.)

Q. This appears to be a copy of, possibly, copy of the log?

A. Yes.

Q. Is that correct?

A. I think it is.

Q. Well, where is the copy, the first copy, of the log? [1868]

A. That I couldn't say.

Q. Did you ever see it?

A. Mr Latham gave me that.

Q. Gave you what?

A. This paper you have in your hand; and whether he had the original copy or not I don't know.

Q. That is, the copy of the original?

A The copy of the original; yes.

Q Yes. So that this is nothing but a copy of a copy of the original?

A Possibly that is what it is.

Q You don't know whether this is a correct, full, true perfect copy of the original log of that well, do you?

A No; I don't.

Q Did you examine this copy of a copy when you put the information on the map?

A Yes.

Q This shows that for 35 feet thickness, between 415 feet and 450-foot level, the drillers struck light sand with gas.

A Yes.

Q And stopped in what is known as tar sand at 1050 feet.

A Yes sir.

Q The well appears to have commenced, according to this copy, on September 26th. What year would that be?

A 1910, I think.

Q And when was the drilling discontinued?

A That I couldn't say.

Q Now, referring to Section 9, Mr. Luke, the southwest quarter, a well represented as 810 feet, apparently the Elk Hills Oil Company.

A Yes. [1869]

Q Have you the log of that well?

A Mr Anderson has a copy of the log.

Mr. Mills—Give me that, Mr. Anderson, please.  
(Produced.)

Q You have examined this paper which Mr. Anderson hands me. What is it?

A It is a copy of the log.

Q Copy of the log of this well on Section 9, 31-24?

A Section 9, 31-24.

Q Where did you procure this?

A It came from the Associated Oil Company's office. Mr Williams gave it to Mr Jeffries.

Q Mr Williams, the geologist of the Associated Oil Company?

A Geologist of the Associated Oil Company; yes sir.

Q Have you compared it with the original log?

A No; I have not.

Q You don't know whether it is a true copy of the original log or not?

A No sir.

Q Do you know when drilling commenced on this? Oh, I see; started September 20, 1910, and discontinued October 22, 1910?

A Yes sir.

Q And reached a depth only of 810 feet?

A Yes sir.

Q Is that right?

A I believe so; yes sir.

Q Have you a copy of the log which you have shown on Section 3 of the same township, Elk Hills Midway, 1415 feet deep?

A Yes.

Q Has Mr. Anderson got that?

A Yes sir. [1870]

Mr Mills—Will you please produce that, Mr. Anderson? (Produced)

Q Where did you procure this alleged copy of the log of that well?

A I made that copy from the book of the original log in the possession of Messrs Barlow & Hill, in Bakersfield.

Q Which member of that firm gave it to you?

A They were both present when I got it. I think Mr Hill handed it to me, and Mr Barlow took it out of his desk.

Q This copy shows that the well reached gas at 351 feet.

A Yes sir.

Q And was drilled only to a depth of 1415 feet?

A Yes sir.

Q Now, Mr. Luke, have you a copy of the log of the Esperanza Oil Company, on Section 10, of 31 - 24, which you have stated was 3072 feet in depth?

A I don't know whether I gave that original copy to Mr Anderson or not. I had a blueprint of that well.

Mr Mills—Have you got the copy of that log, Mr Anderson?

Mr Anderson—What number?

Mr Mills—The number is not given here. There were four wells, apparently.

The Witness—It is the only well they drilled there.

Mr Mills—3072 feet. (Log produced by Mr Anderson)

The Witness—That is only a partial log.

Q By Mr Mills—This copy which is shown me goes only to a depth of 503 feet.

A Yes. I saw the original blueprint of that log in the General Petroleum Company; and from that I took my depth 3072 feet.

Q This is all the data you have here?

A That is all I have here. [1871]

Mr Lewers—I have a blueprint somewhere, Mr Mills, but I never can find it. I was thinking where I had put it and could find it.

Q By Mr Mills—Do you think you can get a copy of that log, Mr Luke?

A I think I can. I had it once; I think I can get it again.

Mr Lewers—Mr Jeffries informs me that the original was returned.

Mr Jeffries—You had the original and made a copy of it, and we returned the original.

The Witness—If I made a copy of it, it is at home. I know I had the original blueprint of the log.

Q By Mr Mills—If you have it you will send it in, won't you?

A Yes; sure.

Mr Mills—With the stipulation we can use it in connection with the testimony.

Mr Lewers—Yes.

Q By Mr Mills—Now, referring to the well on

Section 2 of 31 - 24, the East Midway Oil Company, 1315 feet in depth.

A Yes.

Q Is that the copy of the log of that well?

A This is the copy of the log of that well.

Q The copy of the log which you have handed me of East Midway Oil Company, otherwise known as the Barlow & Hill, for the well on Section 2, 31 - 24, gives a discovery of gas at 1106 feet. Is that right?

A I think it is.

Q Drilling commenced July, 1910, and was discontinued when?

A I don't know, unless I have got the data here. [1872]

Q The well went 1315 feet deep. Is that right?

A Yes.

Q Now, have you a copy of the log on Section 11, southeast quarter, Monsoon Petroleum Company?

A Yes. I handed a copy of that to Mr. Anderson. (Log produced.)

Q Who made this copy of the log?

A I can't tell you who made it. It came from the associated Oil Company to me. I believe there is a notation on the log that shows who made it, come to think of it. I believe it was made by Mr E. A. Flanders, for the Associated Oil Company.

Q For the Associated Oil Company?

A I think so. July 31, 1911.

Q This well was commenced what date? Do you know.

A No; I don't.

Q Do you know when it was discontinued?

A No.

Q Did Mr Flanders write this off in typewriting, or was this copy made from his copy?

A Of that I have no idea.

Q Who was it that took occasion to add to this log the misfortunes of this company in attachments by different people issued by justices of the peace, carpenters, and so forth?

A I don't know.

Q Was that put on for any purpose of influencing the court in this case, that you know of?

A I have no idea. It was there when I got the log.

Q You don't regard that information in the remarks as appropriately in the log, do you?

A No.

Q By Mr Lewers—You didn't put it on your map, did you?

A I did not. [1873]

Mr Mills—I think the Kinsey well log is in the record, isn't it, Mr Lewers?

Mr Lewers—Yes.

Q By Mr Mills—Now, all of those wells which I have called your attention to are represented by you on this map as within the boundaries of the Elk Hills?

A Yes.

Q And most of the wells which we have discussed here are on the fringe of the anticline and not near the summit of the dome of the Elk Hills?

A They are not near the summit of the Elk Hills; no sir.

Q And the only wells which have produced oil in large and spouting quantities are wells which were sunk on sections of land interspersed or contiguous to the lands in this suit, are they not?

A The only wells which have produced oil are those wells which are in the position that you have stated.

Q That is to say, interspersed with or contiguous actually to the lands in this suit?

A Yes sir.

Q Now, have you designated all of the wells which are in existence, or were in existence on January 1st, 1913, on this map in the Elk Hills?

A I think so.

Q You have not left out any?

A I think not. I aimed not to.

Q Now, does this map give every well in existence January 1st, 1913, on lands not in the Elk Hills which are represented on this map?

A I think so.

Q Every well?

A I think so. [1874]

Q Referring to the well on Section 28, of 30 - 22, known as the Newman & Morris well, have you the log of that well?

A No sir; I have not.

Q That well is producing oil at the rate of forty barrels a day, or was until it was flooded with water, was it not?

A I don't know as to that.

Q Yet you have designated that well as a dry hole.

A I understood that the well was a dry hole.

Q Not working, or abandoned.

A It was not working the last time I saw it. The boiler had been removed.

Q Don't you know that the Newman & Morris well was producing oil at the rate of forty barrels a day until it was flooded with water?

A No; I don't.

Q Well, are you positive that it was not?

A No; I would not swear that it was not.

Q Now, if it is true that the well was producing oil at that rate, do you think you would have placed it under the symbol which you did in the legend?

A No. I would have put it under the list of abandoned wells, or wells not producing, I should say, at this time; wells that had a showing of oil.

Q Did you know that that well began flowing oil at a depth between 1080 feet and 1150 feet, at the rate of 40 barrels a day?

A No; I did not.

Q And that it had a showing of oil up to 1190 feet?

A No.

Q On Section 12, of 31 - 22, American Oil Fields, have [1875] you a log of that well?

A No sir; I have not a log of any of those wells at all.

Q Do you know what depth that well is?

A No sir; none of them.

Q Is that well abandoned?

A There was nothing doing at the well when I was there.

Q You don't know whether it was abandoned or not producing?

A It is not producing and it is not working.

Q Not working?

A No; they are doing nothing there. You mean the well in the northeast quarter of the section?

Q Yes.

A No; they were doing nothing at the well when I was there two weeks ago.

Q Now, on Section 6, of 31 - 23, the Union Oil Company—you have designated that well as 3205 feet deep?

A Yes.

Q Have you the log of that well?

A I am not so sure. I will see. I think I gave Mr. Anderson a copy of that log.

Mr Mills—Have you that log here, Mr Anderson?

The Witness—I am not sure whether I did or not.

Q By Mr Mills—You have no log for Section 6, 31 - 23?

A I am not sure whether I gave him a copy of that or not. I think I did. I saw a copy of the log. I think I gave it to him. (Log produced by Mr Anderson.) Yes; that is the copy.

Q Where was this alleged copy made?

A It came from the Associated Oil Company to me.

Q Do you know whether it is a perfect, true and correct copy of the original log?

A No; I don't. [1876]

Q Is this what you examined to get your data from?

A Yes; that, together with being near this derrick.

Q They had considerable trouble in that well, didn't they?

A Apparently they did, according to that log, yes; a great deal of it.

Q And their failure was due almost entirely to their mechanical troubles?

A That I couldn't say—what their failure was due to; but they had a great deal of mechanical trouble, though.

Q Now, they did find considerable showing of oil-sand?

A I don't know as to a considerable showing. It states two or three places there they struck oil-sand.

Q Well, they began striking oil-sand at 2918 feet, and at intervals they struck oil-sand from there on until they reached a depth of 3055 feet?

A Yes sir.

Mr Lewers—It says they struck streaks.

The Witness—Streaks of oil-sand. Whether there was any oil in them or not I don't know.

Q By Mr Mills—I observe that on this log there is no collation of data on the back of the copy here.

A Yes.

Q Do you know why that was not put on there?

A I do not.

Q You stated that you don't know whether that is a correct copy of the original log?

A No. I have never seen the original log, so I have no way of knowing.

Q Have you a copy of the log on Section 18, of 31 - 23?

A No; I have not.

Q What information you have there you got from hearsay as to that well? [1877]

A I took it from the copy of the log in the possession of the K. T. & O. at Sunset.

Q Is that well abandoned?

A Yes sir.

Q It is abandoned?

A Yes sir. As much as I can see, it is abandoned. The derrick is down.

Q Well, do you know, as a matter of fact, that it is abandoned?

A Well, I should say it is.

Q In other words, the Midland Oil Fields Limited have no further interest in that property?

A On Section 18?

Q Yes.

A I have been looking at the wrong section on this map. My testimony as to that well is wrong, and I would like to go back and correct it right now, because I have been looking at the well on Section 16 instead of 18, and talking about that.

Q All right.

A Section 18, 31 - 23. No; I have not a copy of that log.

Q Well, then you don't know anything about that well, except what you have heard?

A What I have heard, and the copy I saw in the possession of the Kern Trading and Oil Company.

Q Have you a copy of the log on Section 8, of 31 - 23, Mays Oil Company?

A Yes.

Q May I see, that, please?

A Mr Anderson has it. (Produced)

Q Do you know whether this well was in the syncline or not?

A Do you know whether it was in the syncline or not? [1878]

Q Yes.

A No.

Q Have you got the log of the well known as the Rex Midway, 3414 feet, on the same section?

A I think that Mr Anderson has the copy of that log also. I think he has. (Log produced)

Q This is a copy of a copy of a log, is it, that Mr Anderson has handed me?

A It is a copy of the log, I believe.

Q You have never checked it with the original to see?

A No; I never have.

Q This copy, which Mr Anderson hands me, of a copy of the log, shows that, for an interval of 45 feet. between 3045 and 3090-foot depth, brown shale carrying heavy gas. Did you observe that?

A   Yes sir.

Q   And from there on down until you reach a depth of 3,333 feet there was a showing of gas and oil—oil-rock, rather?

A   Yes.

Q   At 3285 feet, showing of oil. Did you observe that?

A   Yes sir.

Q   Did you observe also in this note, "This well drilled by rotary, and the log not as complete as should be, The sandy shale has oil showing for over 150 feet"?

A   Yes; I read that.

Q   Now, if there was a showing of oil for 159 feet in the log of that well when you prepared this map, why didn't you carry that well under the symbol of "Wells showing oil (not producing)", instead of "Dry hole"?

A   Well, I thought that the showing of oil, looking at the derrick, that there was nothing there to warrant the statement [1879] that the well had any oil in it that was worth while mentioning; nothing more than a slight trace of oil, probably.

Q   It was worth while mentioning it in the log, when they stated that for 159 feet they found oil showing?

A   Yes. Those things always are in a log.

Q   And that would properly come under the symbol of a "Well showing oil but not producing", would it not?

A   It possibly might.

Q In that respect your map is misleading?

A If you wish to construe it that way, yes. The well never produced a gallon of oil; no evidence of the oil in the run from it.

Q Now, since I called your attention to the discussion as to the wells embraced within the limits of the Elk Hills, as you have defined it on this map, all the other wells that we have discussed were out in the flat, were they not?

A Yes; they are outside of the Hills. Some of them in the edges of the Buena Vista Hills and some of them in the flat.

Q And they have no particular geological bearing upon the lands in this suit, so far as you know?

A Probably not, only in a general way.

Q Yes. Now how did you delimit the Elk Hills by the line which you have drawn here?

A That map—In order to avoid confusion, that line was put out on there from the tracing of the exhibit made by Mr Martin.

Q Yes. And how did you get the sections, the section lines? From the same map?

A In the same way; yes.

Q From the same map?

A Yes; in order to avoid confusion in exhibits.

Mr Mills—Now, I desire to offer this objection to the [1881] offer made by counsel for the defendants of this map: For the reason that the so-called logs examined by the witness are now shown to be alleged copies of logs, not in any way compared or checked with the originals; that even the so-called copies so

examined were received by the witness from an agent of the railroad company defendant on hearsay from that person that they are alleged to be copies of originals; that the original logs are not produced or accounted for, although available to the defendants in this case; that it does not appear that the alleged copies are in anywise claimed to be true, full and correct copies of the originals; that the map differs, even in essential particulars, with the information contained in the so-called copies of alleged original logs, in that in several instances the alleged copies of logs appear to have wells showing oil and the offer fails to designate such wells under the appropriate symbol in the legend. Further, that the symbols in the legend are manifestly misleading, as the witness has testified that certain wells which he admits came in as gushers or spouters and produced oil in enormous quantities, he designates as "Wells showing oil (not producing)"; that the words "showing oil" or "showing of oil", have a common, definite usage and acceptance in the oil business, among oil men, as meaning merely a trace or slight occurrence of oil, and is not in any case used in referring to gushers, spouters, or wells of large production, or even wells of small production which have been placed on the pump. Furthermore, this map bears no date, although it mentions producing and drilling well.

Mr Lewers—We offer this map, primarily, as a check upon what appears in Exhibit O, offered on behalf of the government, and call attention to the fact that Exhibit O is subject, if the objections are valid,

to each and every objection, with one [1881] or two exceptions, now interposed to this exhibit, and that it is offered in this form as illustrative of the testimony heretofore given, and to be given, in this case and by reason of the fact that the production of each and every well driller, superintendent, accountant, keeper of records or others through whose hands any of the data embraced in any of these logs passed would unnecessarily consume the time of this court without accomplishing any useful object.

Mr Mills—I might say, in response to that last reason, that it is apparently tantamount to stating that you contend that your proof will show that you are entitled to retain these lands and because it will consume the time of the court you won't offer any proof.

Mr Lewers—Well, in answer to that, I merely say that the government has not shown that they are entitled to the lands, and the burden of proof is upon them.

Mr Mills—The record speaks illuminatingly upon that subject.

Mr Lewers—Tallow-dip.

The map last referred to and offered in evidence is marked "Defendants' Exhibit 16-LL"

By Mr Lewers:

Q Mr Luke, in the preparation of this map, did you make any use of the testimony that was introduced in this case in connection with it in any form?

A    Yes sir.

Q    Now, what, if you know, is the practice in the oil fields with reference to the interchange of well logs, and copies thereof, amongst oil men and oil companies?

A    Well, my experience during the past year has been that that is the general practice amongst oil men in those fields; it is to interchange their ideas, give each other the logs and information regarding their wells.

Q    And do you know whether or not such copies of logs are [1882] generally accepted and found to be, as a rule, accurate so far as the indications of depth and other general features are concerned?

A    I believe they are.

Q    Have you, in your experience and investigation in connection with these matters, learned, at any time, of any instance of a false log being given out intentionally by any oil company?

A    No; I don't know of any such instance. I never have heard of any such instance.

Q    When you use the designation upon your map, the legend upon your map, as indicating certain wells as having an oil-showing but not now producing, you were referring, were you, as to the latter portion of that legend, to the time when you had prepared that map?

A    Yes sir.

Q    And in determining whether a well would come within the designation of one which had a showing of oil, did you consider a showing which amounted

merely to some colors on the water as coming within your classification?

A No; I did not.

Q What was it that you required in order to make it a well that was showing oil?

A A substantial quantity of oil, something that could be unmistakably termed oil beyond any question by anybody, some considerable quantity—a barrel, or two or three, or more.

Q And in your investigation and in the testimony introduced in this case, have you learned of any instances where drillers or others reported showings of oil, or oil showings, that subsequent investigation revealed was not really oil from the ground at all?

A Yes; I have heard that stated here on the stand by [1883] witnesses.

Q Were your instructions to leave out of consideration as oil-wells anything that had actually produced a pint of real oil?

A No; they were not.

Q What were your instructions in that regard?

A My instructions were to get at all the facts that I possibly could in regard to this matter and to show the wells that had produced any oil as wells showing oil.

Q And was the map prepared, as far as you were able to prepare it, in accordance with those instructions?

A Yes sir.

Q Now, a number of questions have been asked you concerning the occurrence of gas as indicated in

various logs that have been referred to. Do you mean to testify, or are you able to testify, Mr Luke, as to the quantity of gas, or as to the character of that gas, or as to its importance or signification in connection with oil at any place?

A No. I could not.

Q Well, why can't you testify to that? Do you know anything about it?

A I am not sufficiently acquainted with the oil business as a profession, and have not had sufficient experience in the oil business, to go ahead and testify as to the facts regarding a small or a slight production of gas here or there, as to what significance it might have.

Q Now, have you any knowledge of enormous quantities of oil being produced from any of these wells?

A No; I have not.

Q And was the designation which you have used upon your map intended by you to conceal any production of oil?

A It was not. [1884]

Q Was it intended in any way as a measure of the quantity of the oil that was produced at any place?

A Not at all.

Q Were you not instructed, in that connection, that the quantity of oil would be shown by other testimony in this case?

A Yes.

Mr Mills—I object to that question as manifestly

leading and suggestive and putting the answer in the witness's mouth.

Mr Lewers—I will admit it was leading; but it was in order to shorten time.

Q Now, referring again to your map, Exhibit No. 16, and to Section 11, in Township 31-23, and to Section 13 of the same township, there are two wells there marked for the Hart Oil Company, are there not?

A Yes.

Q And did you have any logs that formed any basis, or part of the basis, for the statements contained in your map concerning those wells?

A Yes.

Q Where did you get those logs?

A Why, one of those logs, or both of them—I would not be sure which, but I think that both of the Hart well logs were furnished by Mr Latham.

Q Who is Mr Latham?

A Mr Latham is a geologist at the present time in Taft, or was then, in connection with the water commission of this state, and he gave me a copy of those logs. If I recall right, he is the man who handed me those logs.

Q Well, now, I notice on that one for Section 11, which is now lying before you, a notation at the end apparently in your own handwriting. Is it? [1885]

A Yes.

Q That was not on there, was it, at the time when that was handed to you?

A No; it was not.

Q Will you kindly remove that notation?

A Yes. (Done)

Q And the same explanation applies to the log for a well in Section 13, does it—handed to you by Mr Latham?

A Yes.

Q Have you ever seen the original of either one of these logs?

A No; I never have.

Q Now, on Section 14 of Township 31 - 23, your map indicates a well of the Barnodon Oil Company. Did you examine any log of that well?

A Yes.

Q And where did you obtain that log?

A That log was obtained from a blueprint of the log furnished me by the General Petroleum Company, and I made a copy of it from that. This is the copy that I made from the original blueprint furnished by them.

Q Well, did you yourself prepare that particular document that is lying before you, or was that copied from a manuscript you prepared?

A No; that was copied by myself from the original blueprint of the log that I obtained from the General Petroleum Company.

Q Did you do the actual typewriting?

A Yes.

Mr Lewers—I now offer in evidence, and read into the record, the following logs, subject to any objection that may be interposed by counsel for the government. [1886]

Mr Mills—Before you read anything into the record I want to make an objection. I want to see what log you offer so I can object to it, if I desire.

Mr Lewers—The log of well No. 1 of the Associated Oil Company, Section 22, Township 30 - 23; also, log of well No. 3, of the Associated Oil Company, situated in the southwest quarter of Section 22, Township 30 - 23; and the log of well No. 4 of the Associated Oil Company, situated in Section 22 of the same township, 30 - 23. Also the log of well No. 1 of the Associated Oil Company in Section 24, Township 30 - 23; the log of well No. 2, of the Associated Oil Company, in Section 24, same township; also the log of well No. 3, Associated Oil Company, in Section 24, of the same township. The log of well No 4 of the Associated Oil Company, in Section 24 of the same township. The log of well No. 1 of the Associated Oil Company in Section 26, Township 30 - 23. The log of well No. 2 of the Associated Oil Company in Section 26 of the same township.

The log of wells Nos. 3 and 4 of the Associated Oil Company in the same section and township.

Also the log of well No. 1 of the Hill Crest Oil Company in the southwest quarter of Section 28, 30 - 23.

The log of well No. 1, Midway Pacific Oil Company, in Section 32, Township 30 - 23.

Log of well No. 1 of the Associated Oil Company in Section 30, Township 30 - 24.

Mr Mills—Why don't you offer them all together?

Mr Lewers—Well, I will complete the offer by offering, in addition to what has been already offered,

all the logs that have been referred to in the examination of Mr Luke and produced during his examination. All of these are offered in connection with the testimony of the witness W. J. Luke, inas- [1887] much as all of them have been referred to and used as a basis of his testimony by counsel on both sides.

Mr Mills—The offer is objected to, because no logs of any wells have been produced at this session of this hearing in connection with the testimony of the witness Luke, but only typewritten forms of alleged copies of copies of originals, or of alleged copies of original logs, not in any way identified with the actual log of any one of the wells appearing upon the Defendants' Exhibit 16; that the witness has testified that he has neither checked nor compared these alleged copies with the original logs, and in only two or three instances at the outside has ever seen the original logs as to which he has testified.

The offer is further objectionable, for the reason that no opportunity is afforded counsel for the government to compare these random, fugitive manuscripts alleged to be copies of logs with the originals, nor to have opportunity of cross-examination upon the subject with the persons who prepared the original logs, nor even with persons who claim to have copied these logs; that in several instances the counsel for the government have reason to believe that the copies so offered, or alleged copies so offered, are, in material and vital respects, different from the matter contained in the original logs; that information in some instances has been suppressed by the recopying,

or alleged recopying, of these logs; that the originals are not accounted for in any way, and that the government has, under this offer, no opportunity whatever to make examinations or compare the testimony already in the case with the original logs; and counsel for the government therefore objects to the introduction of these offers at this time, with the reservation to make further objection at a later time, if he so desires, upon further examination of these papers so offered, be- [1888] cause they are manifestly incompetent and the foundation for the offer has not in anywise been laid.

Q By Mr Lewers—Mr Luke, are the logs that have just been offered—introduced—in evidence, with the exception of the two logs of the Hart Oil Company and the one log of the Barnodon Oil Company, the same documents that were produced by you at the request of counsel for the government during your cross-examination?

A Yes sir.

Q Are they the same documents that we used in asking questions from you concerning the showing of gas and other indications in different wells referred to on your map?

A Yes sir.

The various logs last referred to and offered in evidence, are marked "Defendants' Exhibit 17—L.L.".

Mr Lewers—That is all.

Mr Mills—I make the further objection that it would be extremely unfair to the plaintiff in this

case for the court to permit an introduction, in such an informal manner, of a mass of typewritten documents, not accounted for in any way; and counsel can only conclude that the purpose of offering these typewritten alleged copies of logs in this manner is to evade the usual method of laying the foundation for such offers because of a desire to prevent the plaintiff from getting at the true facts in the case.

Mr Lewers—In answer to that, I desire to disclaim any intention to endeavor to take advantage of the government in that manner. The purpose of offering them in this way is in explanation of the testimony of the witness and because each [1889] and every one of these documents was called for and used as the basis of an examination by counsel for the government, and for the further reason that I am satisfied that these are true and correct copies of the original and genuine logs; and in case it shall come to my attention that any of them are not, I shall very promptly notify counsel for the government. I don't want to be understood as attempting to impose upon counsel for the government anything that I don't have full faith in myself.

Mr Mills—In response to one statement of counsel, I will say that the examination of Mr Luke, in so far as these papers offered now is concerned, was solely for the purpose, as appears by the record, to ascertain the basis of his information; and, in so doing, the witness has utterly disqualified the validity of the offer made by defendants' counsel, and has shown that they are in nowise competent at this stage to be

introduced here, and I am surprised and astonished that counsel for the defense should attempt anything so outrageously beyond the limits of the ordinary rules of practice in the introduction of exhibits.

Mr Lewers—That is all.

Mr Mills—I desire to ask some further questions of Mr Luke.

CROSS-EXAMINATION  
OF  
W. J. LUKE, JR.

By Mr Mills:

Q Mr Luke, you have stated in part of your examination today that the exhibit known as “Defendants’ Exhibit 16”, which you say you prepared, was drawn to the scale of “Plaintiff’s exhibit O”.

A Yes. [1890]

Q Made by Mr Martin. Is that correct?

A Yes.

Q In so far as the out-boundaries of the section lines are concerned, and the limitation of the Elk Hills. Is that right?

A Yes sir.

Q Now, you drew this map which has been offered here in evidence as “Defendants’ Exhibit 16”, in such a way as to exclude from the consideration of the court a vast number of productive oil-wells in the Buena Vista Hills and in the Midway flats and in and about McKittrick, in Township 30 - 22, in order, did you not, to give the impression, so far as possible, to the court, that the territory about the Elk Hills

was unproductive, when, in fact, you knew that the Elk Hills lie contiguous to the most productive oil field known in the world today?

A No sir; I did not.

Q You say that you prepared this map also, in part, from data and from testimony which you heard in this case?

A Yes sir.

Q The testimony to which you referred, in answer to that question by Mr Lewers, was testimony of disgruntled oil operators who had either met with failure by locating their wells on the fringe of the anticline of the Elk Hills at spots which, had they taken geological advice, they might have known would never be productive, or by witnesses who were confessed to be in some wise officially connected with the Southern Pacific Company or Southern Pacific Railroad Company, the Kern Trading and Oil Company, the Associated Oil Company, or other subsidiaries of the main railroad company, defendants in this case.

Mr Lewers—To which I object, on the ground that the question is not proper cross-examination, and upon the further [1891] ground that it is not singular but involves at least ten separate propositions, no one of which can be answered specifically except by itself.

A As to the mental attitude of the alleged disgruntled operators, I know nothing about their mental attitude at all— whether they were disgruntled or not. I merely take their statements on the stand here as facts. And as to the men who have alleged

connections with the Associated Oil Company, or any other oil companies—whether of the Southern Pacific or not—I don't know of any of those men whose evidence I used. At this time I don't recall one of them, as to those men having connections with the Southern Pacific Company, if there are such.

Q The testimony to which you referred which formed, in part, the basis of the data on which you rest this exhibit was testimony produced by the defendants in this case, and not in any particular the testimony produced by plaintiff. Is not that true?

A I don't recall that the plaintiff's witnesses ever stated the depth of any well in the Elk Hills. If they did I don't recall it now.

Q You confined yourself to that portion of the testimony produced by the defendants which would be favorable to such an exhibit as you prepared?

A I prepared my exhibit to show the developments in the Elk Hills and I used such testimony as was brought out concerning the Elk Hills.

Q And you confined your map, in so far as it related to the testimony in this case, to that testimony which would be favorable to the contention of the defendants? Is not that true?

A I used all of the testimony that I could in the preparation of the map, whether favorable or unfavorable. [1892]

Q And you took no account whatever, in making this map—and you say you based it on such testimony, and based it in part upon the map made by Mr

Martin—of the productive and successful wells lying immediately to the south of the Elk Hills, did you?

A I didn't take those in there. They are not in the Elk Hills.

Q You heard the testimony of Mr McKay in this case and were present in the court-room when he testified, were you not?

A Yes sir.

Q He was a witness produced by the government in this case?

A Yes sir.

Q And he was an employe of the Associated Oil Company, and you heard the testimony that the well on Section 30, of 30 - 24, which you have denominated here under the symbol in the legend of "Wells showing oil (not producing)", produced, on the gauge, to his certain knowledge, 406 barrels a day?

A I heard him say that.

Q And yet you are willing to put that down on this map as a well merely "showing oil"?

A Yes sir. That is a fact.

Q You neglected to take in more than one-half of Exhibit O, offered by the plaintiff, when you made this Exhibit 16 of the defendant, so as to exclude the great wells in the Buena Vista Hills and the vicinity, the Midway, and in 30 - 22 immediately west of these lands, didn't you?

A I did exclude it.

Q Now, you did that for a purpose. What was that purpose?

A This suit, as I understand it, is connected with

the Elk Hills, and my map purports to show nothing more than the [1893] Elk Hills and the land that is immediately contiguous thereto.

Q You have heard counsel for the defendants, Mr Lewers, take witnesses as far as twenty miles away from this land, repeatedly, on other wells which he claimed were unproductive, haven't you, as you sat daily at the hearings in this court?

A Possibly I have.

Q Yes. And you heard him, and helped him yourself, as a scouting agent, to collect information about all the unproductive wells on the West Side field and gave that to Mr Lewers to introduce in this case, didn't you?

A No sir.

Q And the purpose which you had in excluding from this map the productive wells of that field was in order to take in as many wells which were unproductive as you could possibly do and at the same time show the least number of wells which were commercially productive?

A No sir.

Q And your exhibit shows that on its face, does it not, Mr Luke?

A No sir; it does not.

Q You were willing to delimit this map to within half a mile of the south fringe of the Elk Hills on one side, weren't you?

A Yes sir.

Q And a mile on the west side, when, if you had gone three or four miles in either direction, either

west or south, further, you would have shown to the court the greatest oil field in the history of the world, wouldn't you?

A There is a great oil field there.

Q Yes. Now, who suggested to you, Mr Luke, that you should limit this map to show no great production in the Buena Vista Hills? [1894]

A I don't know as any one did.

Q Didn't you discuss with Mr Lewers what this map should contain, before you prepared it?

A I told Mr Lewers that I thought we ought to have a map. Mr Lewers talked the matter over with me.

Q Yes; and it was thoroughly discussed what the limits of this exhibit should be, was it not, Mr Luke?

A Yes. It was to show the Elk Hills.

Q And, to be fair about it, the matter of showing as much unproductivity in the wells which you have represented on this map was thoroughly discussed, wasn't it?

A No; it was not.

Q And it was also discussed by you and Mr Lewers, in the preparation of this map, that you should so draw it as to exclude all the great wells in the Buena Vista Hills and vicinity, the Midway flats, and along the line of seepages of the Temblor Range and the production in 30 - 22 near McKittrick?

A No.

Mr Lewers—If you want to know, Mr Mills, I told him to prepare a map that was small enough that we could handle it.

Mr Mills—Never mind. You are not testifying now.

Q The only obstacle you met in the preparation of this map, in the purpose of showing, so far as possible, unproductive wells, was that you really had to put in the lands in this suit and show the wells on 24 and 26 of 30 - 23 and Section 30 of 30 - 24, in which you admit yourself that you understand they came in as gushers; otherwise your exhibit would be, would it not, an exhibit with an attempt to show wells which had not produced oil, so far as possible? Is not that true?

A What is true? The question is all involved. Please read it, so I can understand it.

Q Just read it back to him. [1895]

A That question asks two or three questions.

(The previous question was read by the Special Examiner.)

Q Now, the question is, Is not that true—all of it or any part of it?

A Well, it is not true.

Q Not true?

A No; not all of it.

Q Now, you prepared a legend, in what I consider, and compliment you for, as somewhat clever, in such wise as to apparently tell the truth, but only part of it, in other words a legend which would be calculated, although stating, possibly a fact, but not all of it, to mislead the court. Did you not?

A No sir.

Q When you put down, under the symbol, "Wells

showing oil (not producing)”, wells which you admit you understand came in as gushers, you did that with the designed purpose of having the court understand that those wells which appeared under that symbol had only a trace of oil but were not now producing oil. Wasn't it done for that purpose?

A It was done for the purpose of showing that the wells were not producing oil.

Q And under that symbol you could put down a well which had produced 10,000,000 barrels of oil in the past but which is not now producing oil?

A I could.

Q In that respect, then, Mr Luke, that symbol is entirely misleading to the court, with no explanation whatever, is it not?

A The symbol shows the fact that is.

Q It shows the fact that it is not producing; but the words, “Wells showing oil”, in that connection, although not now producing, if a certain well had produced in the past 10,000,000 barrels of oil, it would certainly be misleading, [1896] would it not?

A Possibly it would.

Q Yes. Yet you were willing to mislead the court in that respect and put on your map a symbol which would include wells which came in as gushers?

A There was no intent on my part to mislead any one in the matter. The map is intended to show the facts as they are, and not intended in any way to show any amount of production of any well.

Q Now, if you found a well which was on the pump, but which was not pumping, but which you

knew would produce five or six hundred barrels of oil a day, or even a hundred barrels of oil, but it was not producing, you would put it under the symbol in your legend, "Wells showing oil (not producing)", wouldn't you?

A It would depend entirely on what the well was stopped for. If it was for repairs, I would say no.

Q Suppose it was shut down, not for repairs.

A Then, if it was shut down, I would say the well was a well not producing.

Q And in that respect, to be perfectly fair, your map is misleading to the court?

A I don't think so.

Q You have heard of the Lake View gusher, haven't you?

A Yes.

Q That is a well which is commonly reported to have produced 10,000,000 barrels of oil in a year, or thereabouts. You have heard of that, haven't you?

A Yes.

Q And for a time that well was not producing?

A Yes.

Q Now, that well you would insert in your symbol here as [1897] a well "Showing oil (but not producing)", would you not?

A If at the time I saw the well it was not producing I could not do anything else.

Q So that you constructed a symbol which was designed in advance to mislead the court?

A No sir.

Q As to the actual facts in this case?

A Yes.

Mr Lewers—I submit that question has been asked and answered seven times now.

Q By Mr Mills—Now, Mr Luke, you have been asked as to your experience with reference to the interchange of well logs in the oil fields of Kern county, and I believe you stated from your experience it was common practice. Is that right?

A Yes.

Q Your experience, however, and the ease with which you were able to get logs of wells, was, for the most part, limited to the activities of such subsidiaries of the defendants in this case of the Kern Trading and Oil Company and the Associated Oil Company and their allied companies or companies in which the Southern Pacific Company owned some part or portion of the capital stock? That is where most of your work has been done, has it not?

A No.

Q In the collection of data?

A No.

Q Didn't you testify that all the logs you got in this case, with the exception of two or three, you got from the Associated Oil Company?

A Yes.

Q And the Associated Oil Company, to your knowledge, is generally known to be controlled and dominated by the Southern [1898] Pacific Company by ownership of over fifty per cent of its capital stock? Is not that so?

A I don't know anything about it.

Q Well, you know that by common reputation, don't you?

A I have heard such, but I don't know anything about it.

Q And you also know, by the ease with which you can go into the private files of the Associated Oil Company and get out documents that no one else can get, that they must have some financial connection, at least? Is not that so?

A I don't know what the connections between those two companies are.

Q You never had any difficulty in getting logs from the Associated Oil Company when you were sent by the Southern Pacific Company to get them, did you?

A No.

Q Nor of the Kern Trading and Oil Company, did you?

A No sir.

Q So that your experience, in that respect, was limited, to a large extent, to those three companies and their associates?

A When I found the Associated Oil Company and the Kern Trading and Oil Company in possession of the logs of pretty nearly all those wells in that field, I would say that it wouldn't be difficult for them to get them. How they got them I have no reason of knowing.

Q But you got over ninety per cent of the logs which you claim that you examined—copies of logs—from the Associated Oil Company?

A Personally I did: yes.

Q And when you say it is your experience that it is the common practice to interchange logs with anybody, you refer to the ease with which you obtained those logs?

A And to the fact that they had those logs, or I would [1899] not have been able to obtain them; and they didn't drill the wells, I understood.

Q You know that the Associated Oil Company and Southern Pacific Company have business relations with other companies in that field, don't you?

A No; not of my own knowledge.

Q Well, you have heard it, haven't you?

A I would imagine they would.

Q Yes. So that you don't want it to be understood here now that an oil operator, independent of any of those large companies, could go to the Associated Oil Company and ask them for a log and get it?

A I don't know what they could do.

Q So that your testimony on that point is limited to your own experience, in which you had no trouble in getting them from those companies? Is not that so?

A Yes; and from any one else I asked.

Q Who else did you ask? You say you got all these, except two or three, from the Associated Oil Company.

A Well, Barlow & Hill, Latham, Dave Kinsey, and Mr Robertson, Mr Dyer, —

Q Dyer is connected with the Southern Pacific Company, is he not?

A I don't know.

Q Yes. Ninety per cent of the logs that you got, you got from associates or subsidiaries of the Southern Pacific Company, defendant in this case?

A Yes.

Q Certainly. And all those companies which you have said you obtained logs from, apart from the Associated Oil Company, you got the logs from companies which sell their products and entire output to the Associated Oil Company? [1900]

A They haven't any of them sold anything to the Associated Company that I know of. They didn't get anything to sell.

Q None of those companies ever sold any oil to the Associated Oil Company? Is that what you mean to testify?

A Not from the wells that I took the logs from.

Q I am not asking you about the companies that you got the logs from. I am speaking about their business relations.

A I don't know anything about their business relations.

Q Now, you know what the lands in this suit are, don't you, Mr Luke?

A Yes sir.

Q Very well?

A Yes.

Q That is, you know the description?

A Yes.

Q And all of those lands are in the south half of the township known as 30 South, 23 East?

A Yes.

Q You know, also, that the question, the paramount question, raised by the defendants in this case, is whether or not those lands are oil lands?

A Yes sir.

Q Now, you were willing to include in your map an entire township east of the lands in this suit. Why didn't you go an entire township south and west?

A It was not of the Elk Hills.

Q Well, the Elk Hills,—the only part of the Elk Hills that is involved here is the south half of 23. There is nothing else involved here, and you know that well, don't you?

A Yes.

Q Now, why didn't you, in making that map, if you included a township to the east, go a township to the south? [1901]

A As I stated before.

Q And a township to the west.

A As I stated before, they are not in the Elk Hills and I considered the Elk Hills as similar in their extent, and I aimed to show them.

Q Well, you considered and have heard testimony in this case on the part of the defense that the Buena Vista Hills are an analogous uplift to the Elk Hills and lying immediately to the south of them, didn't you?

A I have heard that.

Q Why didn't you include those hills?

A Because they were outside of the Elk Hills.

Q Outside of the Elk Hills?

A Yes.

Q But they were analogous formation and structure, weren't they?

A Possibly so.

Q Well, you have heard the testimony in this case?

A Yes sir.

Q And that is the testimony both of the plaintiff and defendant, isn't it?

A I believe so.

Q Yet, you were unwilling to include those hills because they showed great wells?

A No.

Q And you include an entire township to the east of the lands in this suit which have never been, with the exception of the west end, drilled for oil?

A I believe not. That is, I believe they have not been drilled for oil.

Mr Mills—That is all for the present. I reserve the right to make further objections to those copies of logs. [1902]

The logs referred to and offered in evidence in connection with the examination of the witness W. J. Luke, and marked "Defendants' Exhibit 17". [1903]

FRANK M. ANDERSON, a witness called and sworn on behalf of the defendant, testified as follows:

**DIRECT EXAMINATION.**

A. My first work was in connection with the State

Mining Bureau. I furnished most of the material published in the bulletin devoted to the copper resources of California. I also contributed a chapter to Bulletin No. 19, devoted to the oil resources of California. This chapter covered the districts of Humboldt County. I made several private reports on oil territory in different parts of the state, or alleged oil territory in different parts of the state.

Q You have stated that you were connected with the Geological Department of the Southern Pacific Company. Were you employed in your professional capacity by any other railroad company prior to that time?

A Yes. I was in the Land Department of the Central Pacific Railroad Company for one year or more.

Q When was that?

A From about the 1st of April, 1902, to the following April.

Q And who was at the head of the Land Department of that company at that time?

A Mills.

Q W. H. Mills?

A. W. H. Mills.

Q When did you first go into any part of the Kern River or West Side oil fields?

A I visited the Kern River and West Side fields in March, 1903, for the first time.

Q I noticed in a copy which I have before me of your paper on the Neocene deposits of the Kern

River, California, and the Temblor Basin, a statement on page— [1904]

Mr Mills: What publication is it?

A It is the fourth paper that I wrote.

Q Published by what authority?

Mr Lewers: The California Academy of Sciences—a statement that the first visit of the writer to the Kern River District was made in the spring of 1902. Is that correct?

A I think that must be a typographical error. It should be 1903.

Q How did you happen to go down there at that time?

A My interest in the oil industry led me to ask for a leave of absence without pay from the Central Pacific Land Department, and I went down there on my own resources.

Q And while you were there were you acting in any way for the Central Pacific Railroad Company?

A I was not.

Q Or for the Southern Pacific Railroad Company?

A No; it was an independent excursion that I took into the oil district without pay from anybody.

Q Where was it you went first on that trip?

A To the Kern River field. I spent three or four days in the Kern River field and I visited all parts of the Kern River District and talked with a good many people there, and I came from there over to McKittrick early in March, 1903.

Q Were you acquainted with Professor Josiah Owen at that time?

A I met Mr Owen at McKittrick on that visit for the first time.

Q How did you meet him?

A I met him at a restaurant at breakfast. He sat on one side of a small table and I sat on the other side. We were perfect strangers to each other. I asked him if he was interested in the oil business about McKittrick— [1905]

Mr Mills: I object to that statement as not responsive to any question and as a mere voluntary irrelevancy.

Mr Lewers: It is responsive. You may complete your answer.

A I asked Mr Owen if he was interested in the oil industry in the district and he said he was employed by the Southern Pacific Company. I asked him in what capacity he was employed and he said he was assistant to Professor Dumble who was in Texas, at the head of the Geological Department of the Southern Pacific Company. I told him I was from the Land Department of the Central Pacific Railroad Company.

Mr Mills: I object to that and move that the answer be stricken as wholly uncalled for by any question.

Q By Mr Lewers: You may state the rest of the conversation.

A I told Mr Owen that I was connected with the Land Department of the Central Pacific Railroad

Company and was interested in the geology of the oil districts, and had come down to learn what I could about the geology of the oil districts in the valley. He said he would be very glad to show me anything he could, and we had considerable conversation.

Mr Mills: It will be understood that this objection will go to all this?

Mr Lewers: I will agree to that, Mr Mills.

Q Had you heard of him before that time?

A I had not. I didn't know there was such a man as Mr Josiah Owen till he told me his name at the breakfast table.

Q After this conversation and after he had stated that he would show you what he could there, as you have related, what did you and he do?

A We had considerable conversation about the field. Mr Owen told me he was unfamiliar with the geology of California [1906] and asked me if I was familiar with it, and I told him I was quite familiar with the main features of the geology, and I gave him an extended outline of the chief formations that he should expect to find in that vicinity, and we proposed to drive about the fields together, and examine some of the formations. He was anxious to know something about these formations more than he did know, and to know how to classify them and so forth, and I was anxious to see the local geology, and we worked harmoniously together and made several excursions at that time around the McKittrick and Midway fields.

Q Before taking up more in detail those excur-

sions that you have referred to as being made at that time, what was the state of the literature on the geology of the country at that time?

A The literature was very meager. There were only one or two papers that referred to this region at all about McKittrick and Sunset and Midway. I had the papers published by the State Mining Bureau by Mr W. L. Watts and I had Mr Eldridge's paper published about 1900.

Q Who was Mr. Eldridge?

A. George H. Eldridge of the United States Geological Survey. He had one or two papers. One was on the asphalt deposits of the United States, in which he referred to the asphalt deposits of California in Kern county, and some paper in a bulletin—I don't remember the number. Aside from those four papers there was hardly any literature at all. I believe that Whitney, who was at one time state geologist of California—away back in the '60's—had discussed the geology of the Mount Diablo region more extensively than anybody else, and had referred to the country about the Buena Vista Lake region or Kern Lake region.

Q In any of the literature that was then in existence, [1907] that you have mentioned, was there any reference made to the territory not then developed as being oil territory?

Mr Mills—That is objected to because the papers referred to by the witness are the best evidence.

A Yes. Mr Watts in his bulletin by the State

Mining Bureau referred to quite a number of the districts that he considered prospective oil districts.

Q Will you mention some of them?

A Yes—

Mr Mills—Let me understand from counsel. Do you mean that you want the witness to recite what was in these bulletins?

Mr Lewers—No; the districts to which it refers.

Mr Mills—I again object for the reason that the papers themselves are the best evidence.

A Mr Watts referred to such districts as Moody Gulch in the Santa Clara Valley and Purissima oil district, Half Moon Bay and Matol district, Humboldt county, and of which I personally prepared a report, the Krayenhagen country, the Kettleman Hills, the Devil's Den, the Temblor district north of McKittrick, and several others in which there has been no development since.

Q In any of the literature of that kind did you find any reference to what are now known as the Elk Hills as being oil territory?

A No; I did not. I searched the literature then extant on the geology of this region, and I believe that as far as I have been able to discover (and I searched pretty exhaustively) no reference was ever made to the Elk Hills or to the region north of the Buena Vista Lake until 1910, when the United States Geological Survey published Bulletin No. 4 and Bulletin No. 6. Those contained the first reference to the Elk Hills or to that district that I have ever seen in

print in any standard geological literature or any other. [1908]

Q Coming back to the occasion immediately following your first meeting with Professor Owen, I believe you have stated that arrangements were made to make various trips around the country. Now, will you proceed to state where you went, if you made those trips?

Mr Mills—Let me ask counsel what is the purpose of that question?

Mr Lewers—To show where they went and what they did.

Mr Mills—Is it for the purpose of qualifying this witness as a geologist?

Mr Lewers—Partially; and for other purposes as well.

A The first trip I made with Mr Owen was to the hills north of the Temblor Valley, and we drove up to the Temblor ranch house and stayed all night and examined the geology between McKittrick and the Temblor ranch house, and the following day we went on foot on to the mountains north of the Temblor ranch house into the foothills of the Temblor Range. That was the first trip we made. We came back from there to McKittrick and started again to make other trips.

Q On that first trip that you have just mentioned, state whether or not you had any conversation with Professor Owen with reference to what are now known as the Elk Hills.

A Yes; I did.

Q Will you state what that conversation was and how it came up?

Mr Mills—Let us know the time that it occurred and who was present, if anybody.

Mr Lewers—It has already been stated that it was early in March, 1903.

A The time of the visit or trip was early in March, 1903, and there was nobody present but Mr. Owen and myself. The conversation was between us two. [1909]

Q By Mr Mills—And occurred in what place?

A On top of the hill north of the Temblor Valley.

Q Just you two railroad geologists together?

A Yes.

Mr Lewers—Do you think it is necessary, Mr Mills, to indulge in remarks of that kind?

Mr Mills—I don't see anything offensive about that remark.

Mr Lewers—It was intended to be.

Mr Mills—It was not intended to be. It states a fact.

Q By Mr Lewers—You may proceed.

A As I came across the valley from Bakersfield to McKittrick, the first thing I saw that looked like a hill were the hills to the south of the railroad, on the west side of the valley. I didn't know the names of them, but I saw a group of hills rising like a great dome on the border of what I undertood to be an oil belt—not far away from the border of what I understood to be an oil belt—and my attention was attracted to that group of hills. They were the hills now known as the Elk Hills. As we stood on the top

of the hill north of the Temblor Valley, we had a very good viewpoint of all the surrounding regions toward the valley and along the flanks of the Temblor Range. It was a little higher than most of the other spurs. Mr Owen told me had been there about a month and had visited about all parts of the valley contiguous to McKittrick. I asked him, among other things, what that group of hills was toward the southeast. He said he didn't know the name of the hills, but it was a group of hills that was distinct from all the rest of the hills about, as I could see they were. I asked him if he had been over in the Elk Hills—into those hills—(I didn't say "Elk Hills", but "those hills")—and he said he had. I asked him what he saw over there and he told me generally— [1910]

Q What did he tell you?

A What the conditions were—what he saw. He said it looked to him like an anticline running through those hills from northwest to southeast, but that there was no outcrop on the surface from which he could learn anything. I said, "Are there any marine fossil beds cropping up over there at all?" He said, not as far as he knew; that he had not seen anything in the line of fossils. That there was no hard formation visible at all as far as he knew. They were all clays and shales, such as we could see in the immediate vicinity of McKittrick; but that he had seen enough to convince him as to the structure of the hills and the character of the surface formations. I asked him if it looked anything like oil land over there and he said he hadn't seen anything that looked like oil;

that he didn't think it was an oil district or that it was oil land.

Q What else was said in that respect?

A I remarked that it appeared to me that they were a long ways out from the foothills of the Temblor Range.

Q Mr Mills—I object to that statement and I move that it be stricken as a mere voluntary statement on the part of the witness.

Q By Mr Lewers—You may proceed to give the conversation.

Mr Mills—Do you think it is relevant, Mr Lewers, or material in this case, or even competent, to have this witness state what he told Mr Owen on that occasion?

A Mr Lewers asked me for the conversation. I am trying to repeat the conversation.

Mr Lewers—I certainly do. It is certainly relevant.

Mr Mills—I object to it on the ground that it is a self-serving statement and nothing else. [1911]

Q By Mr Lewers—You may proceed and give the conversation.

A I remarked to Mr Owen that I thought the hills were a long ways out from the foothills of the Temblor Range where the oil was likely to be. He said yes, it appeared that way to him. That is about as much as I recall, of the conversation. I remember definitely that we had such a conversation and that is as near as I can repeat it.

Q In that you are referring to the conversation that took place on the trip up to the Temblor?

A Yes; as we stood on this prominent point north of the Temblor Valley.

Q During that trip while you were up there, was any other territory in that vicinity discussed?

A Yes; we discussed the territory immediately contiguous to our point of view or viewpoint, and all of the rest of the territory, as far as we could see it. And I asked him just where he had been; if he had been on the hills to the east of the Temblor, and he said he had.

Q Now, after that trip up there, did you go to any other part of the field with him on that occasion?

A Yes; we went back to McKittrick that day and the following day we went from McKittrick toward the southwest to a place called Crocker Springs. I had asked him if he knew of many outcrops of oil-sands in the flanks of the Temblor Range, and he told me of this point in particular. I often talked of this point known as the Crocker Springs and the outcrop of sand in that immediate vicinity. He regarded them as an outcrop of oil-sands that underlaid the Midway Valley and extend toward the McKittrick.

Q Did you go to Crocker Springs?

A We went to Crocker Springs and measured the outcrop. [1912] We examined the outcrop—the sand—and we measured.

Q What sand was it that you measured?

A There were several beds of sand. They are distributed through a group of strata about a thou-

sand feet in thickness. I don't recall exactly how much sand there was. It was in separated beds or strata. There was more in the lower part of this particular group. As I would place it now, it is about the base of the Santa Margarita formation.

Q Did you reach any determination at that time as to what it was?

A No; I didn't attempt to classify it then? I accepted his view tentatively.

Q What was his view?

A That this represented the outcrop of the oil-sand that furnished the oil at McKittrick and the Midway Valley.

Q During that trip to the Crocker Springs, on the second trip that you took with him, state whether or not you and he had any discussion of the oil possibilities in any part of that territory.

A Yes sir; we did.

Q State what that conversation was.

A On our road back from the Crocker Springs to McKittrick we followed the foothills toward the east, and then to the north of the McKittrick, and as we traversed the country between Crocker Springs and McKittrick on the return, we talked about the probabilities or prospects of oil in the North Midway field. We both concluded that it was prospective oil land—in fact, probable oil land—from what we could see there and knew generally about the country at that time.

Q Did you make any other trips with him on that visit?

A Yes; I believe it was the following day that we made another trip into the Midway Valley to see the outcrop of these [1913] same sand beds further to the southeast, and I believe we went down nearly to the present position of Fellows—in the foothills west of Fellows.

Q Now, on this last trip that you have mentioned down to the Midway, was there any discussion between you and Mr. Owen as to the territory in that vicinity, as to being oil land or not?

A Yes.

Q State what that discussion was, as near as you can.

A That was one of the main purposes of our trip, was to know as near as we could discover where the prospective and probable oil land lay.

Q. And what territory did you discuss as you recollect it?

A Well, we discussed the prospective merits of the Midway — the Midway Valley and in the immediate vicinity of the foothills around about. There were some hills lying immediately to the east of the Midway Valley, and I asked him if he had been into those hills. He said he had; and I asked him about the structure of them. He said as well as he could observe there was an anticline running down through those hills. He referred to what is now known as the Buena Vista Hills.

Q Now, was there any discussion on that trip as to where that anticline ran with reference to McKittrick?

A Yes.

Q What was that discussion?

A We concluded that it was probably—

Mr. Mills: The question was what was the discussion.

A I don't remember the discussion. I remember better the conclusions.

Mr. Mills: Then I shall object to evidence as to the conclusions.

Mr. Lewers: What conclusion did you reach?  
[1914]

A We concluded that that anticline was a continuation of the McKittrick anticline. It appeared to us at that time to be a continuation of the McKittrick anticline.

Q Now, was anything said on that trip with reference to the hills which are now known as the Elk Hills?

A Yes; they were in plain sight, and I talked about them.

Q What was said?

A I don't remember definitely what was said. I remember the gist of it, the conclusions. I don't remember the conversation that took place on that trip with reference to the Elk Hills, but I do remember that the subject came up, and our conclusions were that—

Mr Mills: Well, I object now to any further statements of conclusions, without giving the conversations which occurred. These are mere impressions

of the witness on something that might have occurred in the conversation.

Mr Lewers: You may state what conclusion you reached.

A Our conclusion was that these hills laid too far away from what we had seen as representing the outcrop of the oil sites — too far away to ever be valuable oil territory.

Q Now, did you at that time make any comparison yourself of the conditions there, and those at Kern River?

A Naturally I did. I spent several days about Kern River looking up the formation and examining the logs of the wells, as far as they were available, and talking with drillers and superintendents about the Kern River field, and I very early discovered — very quickly discovered in the Kern River field the evidence of a river delta, and my conclusion was in reference to—

Mr Mills: Now, just a moment. I want to object, first, to the opinion of this witness expressed as to the Kern River [1915] field, as it is wholly immaterial to the issues in this case; and I can see no relevancy at this time as to what opinion he may have had at that time as to the Kern River field, and it is outside the issues raised by the pleadings in this suit.

Mr Lewers: Complete your answer.

A My conclusions in regard to the Kern River field were that the oil sands existed in a delta deposit of Neocene times made by the detritus carried by Kern River from the adjacent mountains. It was a

typical delta deposit, as far as I could discover. I was thoroughly convinced that that was the case, and am yet. I have had no occasion to change my views in that respect, but at that time I remember definitely as I stood on one of the hills of the Kern River district, looking about the field, I fancied the conditions that existed there in Neocene times when these oil measures were being deposited as sediments, and they were the conditions of the delta. I also noted the fact that notwithstanding these delta conditions, the drilling in the field had pretty clearly outlined or determined the western margin of the sands. As far as I could discover from my investigation, the western border of the field was pretty clearly demarked by the developments that had been made.

Mr Mills: Now, I move that all this dissertation as to the Kern River field and the fanciful indulgence of the witness on the subject, being remote from the land in suit some forty or fifty miles, be stricken from the record.

A While I was at Kern River, I visited the property of the Southern Pacific Company in the field, and met the superintendent, Mr Futhay — I don't remember his initials. Mr. Futhay is now dead. And I told Mr Futhay my conclusions as to the delta conditions.

Mr Mills: I object to any conversation of that kind.

Mr Lewers: There are certain reasons— [1916]

Mr Mills: Yes, there are certain reasons why this witness has impressed me as intending designedly

to incumber this record with objectionable evidence, with hearsay evidence with random people he has met, no chance to cross examine on whatever, and insists on inserting in the record here, regardless of any objection made by me, and before I can make an objection. Now, I object to any statement made by this witness of conversations with Mr Futhay, or any other person, except Mr Owen. That, I think, is material. As to any of the Southern Pacific Company's superintendents in the Kern River field, and the statements they made to this witness, they are not only incompetent, but it is highly improper for you, as counsel for the defendants, to attempt to get such evidence as that into the record.

Mr Lewers: Mr Mills, if you will express your objections briefly, without indulging in language which is intended to be insulting, which a courteous attorney will not conscientiously employ toward a witness, we will proceed much faster. It is not my purpose to introduce any testimony that I do not regard as proper; and when you so suddenly intervened, I was going to suggest to the witness that the conversation was not proper.

Mr Mills: Well, I don't know anything about that, Mr Lewers. I simply know that the witness went on talking while I was making my objection, and it impressed me with the idea that he was intending to put that into the record whether it was objectionable or not.

Mr Lewers: Mr Anderson, the conversation with

the superintendent, of course, will be purely hearsay as far as this issue is concerned.

A Very well. I only wanted to explain my conclusions. You asked me what I based my conclusions on in regard to the Midway field, and I am telling you — preparing you or giving [1917] you the foundation.

Q I desire you to do that, but not to give any conversation with the superintendent.

A I only wish to refer to Mr Futhay and to this fact, that Mr Futhay took me in a buggy and drove back on the hills east of Kern River, as another step in the development of my information. He showed me the outcrop of some fossil beds that belonged to the Kern River group, which includes the oil regions. It gave me the means of determining the actual width of the Kern River field from east to west.

Q What was that width?

A It was about five miles in width. My observation at that time was that under the conditions of the delta on which this field was formed, that the sand would carry seaward about five miles. That was the width of the sand beds containing the oil measures.

Q Now, when you went over to the west side in the vicinity of McKittrick, had you reached those conclusions already as to the Kern River field?

A I had reached those conclusions in regard to the Kern River field. -

Q Now, what condition did you find on the west

side at that time, or what conclusion did you reach as to whether there was any delta conditions there?

A There were no delta conditions on the west side at all. I saw no evidences of any stream coming in to the basin from the west. Instead of this, I saw what appeared to me to be something like a shore line adjacent to islands that existed in the Neocene epochs when these strata were deposited. The conditions on the west side were very different from those on the east. I saw no reason to expect the sands to be spread from the shore line in toward the interior of the basin, more [1918] than two or three miles at most. I thought that if they were spread under the Midway Valley from its proposed shore line as far east as this so-called anticline that Mr Owen described, that was about as far as the sands could be expected to extend under the conditions as they appeared to me at that time, and our conversation in regard to the geological conditions of the locality, were to take effect.

Mr Mills: Just a moment.

Mr Lewers: Did you discuss the occurrence of sands on this trip?

A We did.

Mr Mills: Just a moment. I want to interpose an objection to the last statement of the witness, that the conclusions and conversations between himself and Mr Owen were to that effect, as he says. I think the witness should give the conversation that he had with Mr Owen and let the court determine the effect.

A I would like to say, Mr. Mills, that I can't

recall the details of the conversation absolutely, as I can the conclusions that we reached.

Mr Mills: That may be true, Mr Anderson, but I am objecting to the form of your testimony—the form in which it goes into the record.

A You understand conclusions are the important thing always, and what we are after. It is the conclusions we hope to attain; not the means by which we reach them. They are not material to the matter in hand, but the conclusions are of very great importance.

Mr Mills: You won't attempt to arrive at a conclusion for the court.

A I will state my conclusions.

Mr Mills: The court is entitled to know what the conversation is, Mr. Anderson, and then say whether the conclusion was such and such.

A I will also say that Mr Owen's conclusions and mine were entirely harmonious.

Mr Mills; I object to that statement and move that that be stricken from the record.

Mr Lewers: Was there any discussion between you and Mr Owen at that time with reference to this matter of the appearance of the sands as you have outlined it?

A Yes, there was.

Q Are you able to state now what that conversation was?

A No, I can't repeat the details of the conversation. I can't remember what he said or what I said,

but I can remember my conclusions, and they were in perfect accord with his.

Mr Mills: I object to that last statement of the witness, because he says he can't remember the conversation, and I think that the statement by the witness of any conclusion reached from any conversation with Mr Owen, is not only highly improper, but it is incompetent.

Mr Lewers: Mr Anderson, do you remember whether or not any conclusions were expressed by either you or Mr Owen as to the result of your conversation and discussion of the geological situation?

Mr Mills That is also objected to for the same reason.

A Yes.

Mr Lewers: And what conclusion was expressed by yourself, if you remember, as to the sands and the appearance of oil at that place?

Mr Mills: The same objection is made to that question as to the three previous questions.

A Conclusions as to what, Mr Lewers?

Mr Lewers: Primarily as to the occurrence of the sands in [1920] comparison with the Kern River field — what conclusion did you reach and express?

A I expressed the belief and the conclusion that I did not expect the sands to have been carried farther eastward from the outcrops than two or three miles, and if they had been carried as far eastward as the anticline he stated existed in the Buena Vista Hills, that was about as far as we could expect the sands to occur.

Q Now, what is the explanation geologically of that condition — what conclusion did you reach at that time — what was the cause of the sands not being carried out further, according to your idea?

A You are asking for my line of reasoning by which I reached those conclusions?

Q Yes.

A I can state that better than I can the conversation. I will have to go back to this third trip that Mr Owen and myself made to the foothills immediately west of Fellows. Mr Owen told me about some overbeds back there that he thought were glacier deposits, and he was anxious to show me these glacier deposits, and I expressed my opinion to him at that time that I did not expect to find any glacier deposits so low in altitude; that as far as I was acquainted on the Pacific Coast glacier deposits did not come below an altitude of 5000 feet in any part of California. He said there was no other way that he knew of accounting for these boulders, and wished me to see them. I went with him and saw the boulders, but I did not give them the interpretation that he did. I saw distinct evidences of a drift along shore.

Q In what direction?

A We speculated as to the source of these boulders and whence they were derived, and I told him that it appeared to me [1921] that they must have come from the southeast, from the direction of Pine Mountain, the large mountain to the southeast of Sunset. Mr Owen thought that these boulders had

been carried by floating ice. I told him that the burden of proof was on him, to show that there was floating ice at that epoch, that the whole deposit looked to me like a shore drift, and showed more than anything else the direction of currents that existed in the basin at the time these deposits were being formed. And I so interpret them at the present time.

Q Now, why did you state that you thought they came from Pine Mountain?

A Because that was the only available source that I could think of. As far as I know, and as far as he knew, there were no outcrops of graniterocks anywhere else, from which they could be derived. Now, I reasoned further that if the currents of that epoch were along the island shores toward the northwest, and were strong enough to have carried this material from Pine Mountain as far as we saw they had been carried, that there would be very little chance for a transverse current from the shore toward the interior of the basin; and therefore I could not see any reason to expect the sands to be carried very far northeastward from the shore.

Q Now, generally — we will take it up more in detail later — where was that point that you called the shore situated, with reference to the present Temblor Range?

A It was along the northeastern foothills of the Temblor Range, and, in a general way, extended from Crocker Springs southeastward to this point, a mile or more west of Fellows.

Q Did you make, on that visit to McKittrick, any other trips than the ones that you have stated? I mean while you were there on leave of absence.

A Did I make any other trips in that vicinity?  
[1922]

Q Yes.

A Well, only locally, in the immediate vicinity of McKittrick.

Q At that time, where was the oil development going on in the vicinity of McKittrick?

A Chiefly along the McKittrick anticline. There were a few wells drilled on the hills to the north of McKittrick — along the hills. I don't remember more than two wells that were drilled on the hills north of McKittrick.

Q And going down toward the Midway over the territory that you travelled on that last trip, what was the development down there in that direction at that time?

A There was very little development at that time. We saw scattered derricks on the hills in the vicinity of Fellows, and from there to the southeast. There were one or two derricks that stood rather on the eastern quarter of the north Midway — I don't remember their location definitely, but I understood at that time that there had been some drilling done there. I believe now that one of these wells was located on section 11, township 31-22. I believe it is the well shown on the southwest quarter of section 11 on this exhibit number 16.

Q Did you visit that well at that time?

A I did not.

Q How long were you at McKittrick, approximately, at that time?

A I was there probably three or four days; I think about four days.

Q And after that, where did you go?

A I went back to Bakersfield and from there to Los Angeles. I came to Los Angeles. I went out into the district in the northern part of the city, and I went out to Whittier.

Q When was it with respect to that visit to McKittrick [1923] in March of 1903, that you went into the Geological Department of the Southern Pacific Company?

I didn't quite catch your question.

Mr Lewers: Read the question.

(Last question read by the reporter.)

A I entered the Geological Department about the first of April following.

Q Of 1903?

A Of 1903.

Q How did you happen to do that?

A Mr Owen told me that there would be a department of geology located in San Francisco, that the staff of assistants was not filled, and that if I wished to enter the Geological Department, there would probably be an opportunity for me to do so; and he gave me Mr Dumble's address in Texas, and I wrote to Mr Dumble and he told me that he would be up to San Francisco about the first of April, or a little before, and would be very glad to see me. Mr

Dumble came up to San Francisco and I went to see him.

Mr Mills: Now, just a moment, please.

Mr Lewers: Did you —

Mr Mills: Unless you want to bull something in.

Mr Lewers: If you cannot observe the dictates of common courtesy, I will have to insist that all further examinations be taken before the court, or we will have the ordinary proprieties observed. I don't like that expression "bulled" being used toward a witness. I don't propose to stand for that.

Mr Mills: Well, Mr Lewers, common courtesy between counsel would ordinarily dictate to you, if you have not learned it yet, that when I ask for permission to make an objection in this case, it is ordinarily granted as a matter of right, but you pay no attention at all to the rules of ordinary courtesy, [1924] nor have not for sometime in this case. I move that all the evidence which the witness has given about letters between himself and Mr Dumble be stricken from this record as it is manifestly secondary evidence. The letters themselves are the best evidence, and have not been produced, although they are available to the defendants in this case.

Mr Lewers: As a result of Prof. Dumble, were you employed by the Southern Pacific Company?

A I was.

Q When did you begin your work for that company?

A I began my work early in April, 1903.

Q And where?

A First in the Lompoc field, Santa Barbara County, and afterwards in the Santa Maria field. After that in a number of prospective fields along the coast line of the Southern Pacific northward to the Salinas Valley.

Q And when was it that you again went into the West Side field in Kern County, as near as you can remember?

A I don't remember the next visit I made to the Kern County fields, but the next one that I can definitely remember was in September, 1903.

Q By the way, did you make any report to anyone connected with the Central Pacific or the Southern Pacific or the Southern Pacific Railroad Company, of the results of your trip when you first met Prof. Owen at McKittrick?

A I did not. I didn't make any report to anybody except to Mr Mills verbally when I came back to San Francisco. I went to see Mr Mills and he asked me where I had been and what I had seen, and I gave him a verbal recital of where I had been and what I had seen and what my ambitions were to go into the department of geology.

Q When you went back there, which you say you think was [1925] in September, what work were you carrying on?

A I went back to Kern County in September in response to a newspaper clipping that was handed me by Prof. Dumble referring to some iron deposits on the summit of Pine Mountain, and I have a copy of the report that I made on supposed iron deposits.

From Pine Mountain I came down to the Sunset. I went from Bakersfield to Pine Mountain, which brought me around to Sunset, and there I met Mr Owen and a team and driver and gentleman by the name of Burls.

Q Who was he?

A Mr Burls claimed to be the assistant of Bover-ton Redwood, the English oil expert.

Q Now, how long did you remain down there on that occasion after you completed your work on Pine Mountain?

A I can't recall definitely how long I remained in Kern County, but it appears to me that I was there about two weeks.

Q And during that time, where were you engaged in carrying on your work?

A We stayed all night at Sunset that night. Mr Owen had our camp outfit in a wagon, and we camped at Sunset. The next morning we started and drove up through the hills to Maricopa, and from there to the northeastward around the south and east flanks of the Buena Vista Hills, and camped on the Buena Vista Lake sometime in the afternoon.

Q And from there where did you go?

A Well, that afternoon Mr Owen and I went on foot into the Buena Vista Hills. We went as far as the southwest corner of section 11, township 32-24, and examined various outcrops in that vicinity and made some estimate as to the thickness of strata exposed about the hills, and we noted the peculiar de-

posits there are on the western border of section 11.  
[1926]

Q    What did you conclude they were?

A    We took them to be deposits of asphaltum.

Q    Well, and following that, what other examination did you make of any part of that territory during that period you were down there?

A    We made an estimate as to the thickness of the strata exposed and the structure of these hills. We were convinced that the Buena Vista Hills at this place were a dome-like anticline — the structure was a dome-like anticline, and the occurrence of this supposed asphaltum we took to be pretty conclusive evidence that this was highly prospective oil land; that is to say, we thought it had an excellent showing as prospective oil land.

Q    Well, what conclusion did you reach, if any, at that time, as to the thickness of the overlying formations?

A    We estimated it by pacing across the hills back toward our camp, and examining the map and noting the distances on that map, and we concluded as well as we could learn it, that there must be about a thousand to fifteen hundred feet of strata exposed on the eastern dip — eastern and norther-east dip of these hills that overlay this outcrop of supposed asphaltum.

Q    Do you know whether that exposure is mentioned in any publication concerning those hills?

A    I think that particular exposure I have never seen mentioned. Bulletin 6 mentions a similar one farther to the northwest.

Q In the Buena Vista Hills?

A In the Buena Vista Hills.

Q And what did that indicate to you, if anything, at that time, as to the probable depth of the territory, if there was oil there?

A At that particular time it was — we didn't have very [1927] much data for judging the depth, and I don't remember that anything was said at that time as to the probable depth at which oil might be expected.

Q Now, did you examine any other territory besides that you have mentioned in the Buena Vista Hills, at that time?

A Yes, we drove from Buena Vista Lake back toward McKittrick up a long valley to the south of the Elk Hills, south and west of the Elk Hills. As we drove along the road we examined at intervals the formations and we were discussing the various aspects.

Q Now, did you at that time go into the Elk Hills?

A No, I did not.

Q Were you able to determine or did you determine at that time anything with reference to the relative erosion on the Elk Hills and that in the Buena Vista Hills?

A We did. We saw the south slope of the Elk Hills from the distance which we were, and it appeared to us that there was very little erosion on the south and west slopes of the Elk Hills, while in the Buena Vista Hills we did see evidence of specific erosion.

Q To that extent?

A To the extent of 1500 feet, probably.

Q Well, did you at that time, as you now recollect it, reach any comparative conclusion as to the erosion in the two hills?

A You mean reach any conclusion as to the comparative erosion?

Q Yes.

A I don't remember that we definitely compared the erosion. It was only a fact of general observation that there was very little erosion on the Elk Hills, as far as we could see, and there had been considerable erosion in the Buena Vista [1928] Hills.

Q Now, after that did you continue your work at any time, on that occasion or at any other later time, in that vicinity?

A We went from McKittrick, on this trip, across the Temblor Range and westward toward the Cariso, San Juan River, as it is called, and made a wide excursion in that direction to study the geology and to see if there was any prospect of there being oil land out in that direction.

Q Well, how large an area did you cover?

A That would be very difficult to answer.

Q Approximately.

A We drove from McKittrick across the Temblor Range and to the Cariso range of hills; we camped in the Cariso ranch-house. That ranch-house is probably about thirty miles by wagon road from McKittrick. From there we drove down the San Juan River to near the La Panza Springs, and then turned

eastward across the Cariso Valley by Simler and back to over the Temblor Range, by the Temblor ranch-house, and from there to McKittrick.

Q Now, did you, in any part of the year 1903, while you were traveling over that country, yourself go into the Elk Hills?

A I did not.

Q Well, why didn't you?

Mr Mills — That is objected to as irrelevant and immaterial.

Q By Mr Lewers — You may answer.

A Mr Owen had given me an account of what was exposed in the Elk Hills, and had repeated it two or more times, and I felt that his statement was satisfactory — for the time being, at any rate — and I didn't know of any very definite reason for going into the Elk Hills. I had a curiosity to go into the Elk Hills and confirm or controvert his views, but I never found an opportunity or occasion, or had sufficient interest, to in-[1929]duce me to do so. I felt that his statement of the case was entirely satisfactory and annulled any excuse that I might have for going into the Elk Hills.

Q Well, now, from that time on, after your September trip into the country, were you in any part of that country during the following year, 1904?

A Yes; I was there repeatedly, both at McKittrick, Midway and Sunset, though I cannot now recall the occasions or the times, except that I was there during 1904 more than once.

Q What were you doing?

A Studying the geological conditions of the foothills of the Temblor Range and noting all the outcrops that had any bearing upon the economic feature of the country.

Q Did you know, in 1903, anything about a company known as the Kern Trading and Oil Company?

A Yes; I did. The Kern Trading and Oil Company was being organized about that time. I believe it was organized, as far as I know, about 1903.

Q Well, did your work have any connection with that company, if you know, at that time?

A Yes; it did.

Q What connection?

A The principal object of our work down there was to study the geological conditions of the country, with a view to making selections of land to be taken over under lease by the Kern Trading and Oil Company from the Southern Pacific Railroad Company.

Q Well, now, what kind of land was it that you had in contemplation as to being included within this lease?

A We wished to include in this list of land all lands that were oil-bearing or prospectively oil-bearing, had any reasonable chance of ever proving to be oil land. [1930]

Q Did you make any reports upon any of the land that you examined, as to its character as to whether it was proven oil land or prospective oil land?

A Yes.

Q And to whom were those reports made?

A I don't remember making any written report

prior to 1905. I reported verbally to Mr. Dumble and to Mr Owen; told them what I saw there and what my conclusions were, and so forth.

Q That was prior to 1905, you mean?

A Yes; prior to 1905.

Q Well, now, in examining land for the purpose of determining what land should be turned over to the K. T. & O. Company, did you go into the Elk Hills at all?

A No; I didn't.

Q Do you know whether or not Mr Owen was carrying on an investigation for a similar purpose or for the same purpose?

A I believe he was. In fact, I know he was. We worked together with the same end in view.

Q Now, during the year 1905 you have testified that you, during that year, made some written reports, for the first time. What territory did you examine? Will you state generally, without going into detail, as to what was done; that is, in what territory did you make examinations during that year?

A I think that in the fall of 1905 I made an excursion with Mr Owen and a driver around the Southern end of the valley towards Kern River. We left McKittrick with our camp outfit and went down along the foothills of the Temblor Range, through the western border of Midway and down to Maricopa and Sunset, and from there eastward along the foothills of the Tehachapi Range to the Tejon Ranch, ranch-house, and from there northward along the foothills towards Kern River, and we stayed there at

Kern River and then went back to San Francisco—or I did. [1931]

Q. Now, did you, at any later time, after 1905, Mr Anderson, make any examination of lands for the purpose of determining what lands should be included in a lease to the Kern Trading and Oil Company?

A I did.

Q When was that?

Mr Mills — Are you referring now to a lease which is in evidence here?

Mr Lewers — No. I am referring now to another lease which we produced and which you didn't put in evidence.

Mr Mills — Is it in evidence now?

Mr Lewers — No; it is not in evidence yet.

Mr Mills — Well, I shall object to any evidence of that until the lease itself is put in evidence.

Mr Lewers — Read the question. (Last question read by the reporter.)

A As I recall now, I made a report on some land about 1907. I don't recall now the work upon which this report was based. It was based rather upon a general information developed at that time.

Q Well, what had happened, if you know, to the records and files of the geological department of the Southern Pacific Company prior to 1907 and after 1905?

A Well, all the files that were in San Francisco were burned up in that fire on April 18, 1906. I lost all my own note-books, personal note-books, and all my personal maps and records and copies of reports,

and everything I had, in fact, pertaining to this work.

Q Mr Anderson, I show you a letter, paper, and ask you if you know what that is.

A Yes. This is a letter written by myself, dated August 12, 1907. [1932]

Q By whom is it signed, or was it signed?

A Well, it has my signature. It was attached to it by a stenographer, Miss Fox.

Q And do you recollect the preparation of that letter?

A Yes.

Q How was the original of that letter prepared, if that is not the original?

A I wrote the original in my own handwriting, in longhand, and gave it to Miss Fox to keep. This is a copy that she made of it.

Q What was your habit at that time with reference to the preparation of letters of that kind, or any other kind, in the office?

A I always wrote my reports out in longhand, complete, and gave them to the stenographer to copy, and asked the stenographer to make a copy for myself, if I wished to retain a copy, and it was my habit to retain a copy.

Q What was done with your manuscript?

A It was usually destroyed. I threw it into the wastebasket after I was satisfied as to the correctness of the copy that had been made.

Mr Lewers — We offer this letter in evidence, with the statement that the list referred to I have

been unable to locate and will produce if I can — that is, the particular one referred to.

Mr Mills — This, I understand, is the copy of the original.

The Witness — This is the copy of the original hand-written manuscript.

Q By Mr Lewers — This is the original letter as sent?

A The original letter I submitted to Professor Dumble.

Q By Mr Mills — Where did you get this paper which you have identified as a paper prepared by your stenographer from [1933] your manuscript?

A The sheet on which I wrote?

Q This paper I hold in my hand — where did you get it?

A The stenographer gave it to me.

Q Your stenographer gave it to you?

A Yes sir.

Mr Lewers — You mean where did he get it now to produce? Is that what you mean?

Mr Mills — Yes. It appears to be addressed to Mr Dumble, at Houston, Texas.

The Witness — Mr Lewers just handed it to me.

Q You didn't get it from Mr Dumble?

A I did not.

Q This was the paper which was sent to Mr Dumble?

A It was.

Q You don't know what has been done with the letter since it left your office, in the mails?

A I do not.

Q Is this the first time you have seen it since?

A I saw it yesterday, or day before yesterday.

Q And you don't know how it was procured?

A I do not; no.

Mr Mills — I shall object to the introduction of the letter, unless the addressee, Mr Dumble, is produced to account for whether he ever received it or not. It has no bearing here, and introduced for any other purpose would be a merely incompetent and self serving declaration of the witness; and for the further reason that the enclosures referred to are not with the letter and the letter itself bears evidence of having been detached from some other papers, presumably the list referred to.

Mr Lewers — I wish it was the list referred to. It is a duplicate of that list, but not the one that accompanied that [1934] letter.

Mr Mills — Not knowing anything about what it refers to, I cannot indulge any wish that counsel has. I would like to ask counsel at this point of the evidence, inasmuch as he has now produced a letter which the witness has stated he sent to Mr E. T. Dumble, at Houston, Texas, whether or not he intends to produce on the witness stand Mr Dumble for examination as to this letter, the list referred to in the letter, as to whether he ever received it or not, and as to other matters in which Mr Dumble has been interested in this case.

Mr Lewers — I don't think I am called on to answer any question; but I am perfectly willing to

tell you that Mr Dumble will be produced as a witness in this case. I have already told you so twice.

The letter last referred to and offered in evidence is marked "Defendants' Exhibit 18 — LL."

Mr Mills — I think, thne, that counsel should delay the introduction of this letter until Mr Dumble is on the stand.

Q By Mr Lewers — Mr Anderson, I show you Plaintiff's Exhibit 4-1, a list of lands for transfer from Southern Pacific Railroad Company to the Kern Trading and Oil Company, which was produced by the witness Irwin Owen as having been found amongst the papers left by his father, Professor Owen. Will you examine that list and state whether or not that list, or a similar list, was ever submitted to you for your examination and report.

Mr Mills — I want to ask counsel, before that question is answered, whether he has the list referred to in this offer which has been marked "Defendants' Exhibit 18".

Mr Lewers — I have already stated that I didn't have that list. I thought I had it, and I discovered that the one that I had that was attached in the file clearly cannot be the one. [1935]

Mr Mills — Well, is it your purpose now, in the absence of the list referred to in this letter, and with no better accounting for its absence, when you offer this exhibit, to attempt to show by this witness that the list which was sent was similar to the list which you have just handed him?

Mr Lewers — Certainly.

Mr Mills — I shall object, then, to any such questions for the reason that they are incompetent at this time. That the list is not properly accounted for or its failure to be produced here. It has been shown on the record that Mr Dumble is and has been for some years the consulting geologist of the Southern Pacific Company, and, presumably, this letter was turned over to counsel by Mr Dumble, although he does not so state.

Q By Mr Lewers — Are you ready to answer the question?

Mr Mills — Just a moment. There is another objection. It appears further that the letter refers to a separate and other list of lands which was sent by Dumble to the witness. I ask counsel where that list is.

Mr Lewers — I don't know what you refer to.

Mr Mills — There are two lists in the letter referred to.

Mr Lewers — Very true, and this will all straighten out as you will see.

Mr Mills — I ask now for the production of that list before this question is answered.

Mr Lewers — I have explained to you that I have not either one of those lists, and I fully believe that the originals accompanying those letters have been misplaced or lost. I thought I had them and I discovered that the ones that I attached are evidently copies and not the ones that accompanied the letter.

Mr Mills — These lists referred to in Defendants' Exhibit 18 were not destroyed in the fire, were they?

Mr Lewers — Oh no. Just simply through misfiling. That [1936] is all. Read the question. (The question is read by the reporter.)

A I remember receiving a similar list, and this list was the basis of my report, of which this letter was a part.

Q That is, the letter that has just been introduced, do you mean?

A Yes; it refers to a list similar to this that I received from Professor Dumble.

Q Now, in this letter of yours of August 12, 1907, you state, "You will notice that I have added to the list herewith enclosed some sections to the south of Kern River. In accord with statements made in a report made November 25, 1905, I would include these at least, though as yet nothing has been actually discovered in this direction. See Township 29 South, Range 28 East, and 29 South, Range 29 East, M.D. M." Your letter refers to the additions made to the list submitted to you. By that do you mean additions made to this list similar to Exhibit 4-1?

A Yes.

Q And, as you recollect it, where were these additions situated.

A To the south of Kern River. That is, in the district south of Kern River on the east side of the valley.

Mr Mills — I want to object to this line of examination because there is no way for counsel for the government to check up the list. The list is not here. The witness says it is similar to this list, and, at best,

his testimony, even if competent, would be vague and indefinite.

Q By Mr Lewers — Now, when you say “similar to this list”, what do you mean by that?

A I mean that as far as I can discover it is identical with this list. It was a copy of this same list. [1937]

Q Did you in any report that you made in 1907 or at any time prior thereto, whether written or verbal, suggest or recommend the inclusion in the Kern Trading and Oil lease of any lands in Township 30 - 23?

Mr Mills — That is objected to for the reason that the recommendation is the best evidence. It is not produced here for some reason best known to counsel. His failure to produce it has not been accounted for. For all that counsel for the government may know, that list probably contains the very lands in this suit.

A I never recommended to Professor Dumble or to anybody the inclusion of any land in Township 30 - 23 — Township 30 South, Range 23 East —

Q By Mr Lewers — Did you not recommend the inclusion of Section 31?

A Unless it might have been of Section 31. I believe there was Section 31.

Whereupon the further taking of testimony herein was adjourned until 2 o'clock P.M., at the same place.

On Wednesday, February 19, 1913, at 2 o'clock P.M. the further taking of testimony herein was resumed pursuant to the adjournment: Willis N. Mills, Special Assistant Attorney-General, appearing

on behalf of the plaintiff and Charles R. Lewers, Esq., appearing on behalf of the defendants.

Whereupon FRANK M. ANDERSON was recalled and direct examination resumed, as follows:

Q By Mr Lewers: Mr Anderson, going back and beginning at the time when you first went to McKittrick in March, 1903, and tracing through your investigations of that country and the surrounding country through 1903 and 1904, I wish you would give in your own way an outline of the conclusions you reached yourself as to any facts concerning the geology of that [1938] country with reference, particularly to the occurrence of oil. You understand the scope of the question, do you?

Mr Mills: That matter has all been covered at the morning session, hasn't it?

Mr Lewers: No.

Mr Mills: Or was that testimony this morning understood to be a joint conclusion reached by the witness and others?

Mr Lewers: You will have to take it as it is in the record.

Mr. Mills: It seems to me to be redundant and a repetition.

A I would like to explain, without having my explanation of record, that the development of my investigation was progressive, and as far as the testimony this morning is concerned, was joint, as it was at that time. However, my own personal views diverge somewhat from Mr Owen's. I think Mr. Lewers is asking for that now.

Q By Mr Lewers: That is what I have in mind. I want your own conclusions and the data that you observed and considered, stated in your own way from the standpoint of a geologist.

Mr Mills: I withdraw my objection. This is prior to 1901?

Mr Lewers: During 1903 and 1904.

A I would like to make this statement without having it in the record at all.

Mr Lewers: Put it in the record, whatever statement you have.

A I desire to give a full and straightforward account, the truth, and nothing more; and I would like to do that without any interruption, and without any attempt to cover it up in any way. I want the truth. That is my chief interest in this case.

Mr Mills: Of course, the purpose of objections and the purpose of cross examination generally, Mr Anderson, is to test the witness, and one having regard for the rights of his client [1939] usually takes such precautions as he can to avoid any misrepresentation or any untruthful statements, or any inadvertently wrongful statements going into the record. The objection does not necessarily mean that the objector believes the witness is stating an untruth, but that he is sifting it according to the rules of evidence, whether it is properly to be introduced or not.

Mr Lewers: Proceed with your answer. Mr Mills, of course, has a right to make such legal objections as he deems necessary for the protection of his client's interest. The purpose of my question, Mr.

Anderson, is to get, if you can state it in that form, the conclusions as you formed them during those two years 1903 and 1904, irrespective of later investigations.

A Yes, I understand that. The conclusions I stated and gave this morning, were based upon what I saw of the McKittrick field the first few days I was there — McKittrick and Midway. As time went on and I got a further acquaintance with the local geology, naturally my own views developed, and they diverged somewhat from Mr Owen's views — not materially, but they changed sufficiently so I think I am warranted in making as clear a statement as I can as to my own personal views. He showed me this outcrop of sand at Crocker Springs, and the continuation of it southeastward to a point back of Fellows. Subsequently I traced that formation out more extensively and followed it to a point south of Fellows. I continued the mapping of it some miles to the southeast and from the northwest. Also I will state this in regard to Mr Owen: He was not a palaeontologist. He knew nothing about fossils except what someone told him, and he relied upon me for any interpretation of fossils and for classifications of rocks very largely; but still he had his own individual ways of thinking, and concluded in regard to the matter. Now, I determined very soon, to my satisfaction, that this sand that he [1940] showed me — these beds of sand were not the outcrop of the true oil sands.

Mr Mills: This was the sand at Crocker Springs?

A Yes; that the true oil sand lay farther east-

ward and higher up in the series; and I found fossil evidences to the effect that this particular series was of Santa Margarita age. This evidence was developed before the end of 1904 from our study of the conditions at Coalinga and the intervening country between Coalinga and McKittrick. Our conclusions, reached together, were set forth in a paper which was published in 1905. I have a copy of it here.

Mr Lewers: What paper was that?

A That was the paper referred to this morning in the testimony as Stratigraphic Study of the Mount Diablo Range.

Q That was published under your name, was it not?

A Yes.

Q Was it prepared by you?

A It was absolutely prepared by me, and I proposed in that paper a classification of formations, and suggested several names that had been adopted by the United States Geological Survey for groups of strata and evidence. Now, before the close of 1904, I found a reason to separate the marine beds of the McKittrick and Midway country into two groups, the older of which I called in this paper the Coalinga formation; the latter one I called the Etchegoin. The term "Coalinga formation" was dropped subsequently for good reason, and its place was taken by the name Santa Margarita, which really had precedence. The term "Etchegoin" was continued and is in use now in literature. Now, I believe that I could distinguish between the Etchegoin and the Santa

Margarita formations in the McKittrick, Midway and Sunset Districts, and I saw very good evidences — very good reason to believe that they should be separated and I also, as [1941] I stated, have seen reasons why these particular sands at Crocker Springs should be regarded as Santa Margarita. This did not affect materially the general conclusions upon which our work was based — our work of selecting lands to be taken under lease by the Kern Trading & Oil Company, but it worth while for a fuller statement of this matter in subsequent development to have this difference between my view and Mr Owen's views brought out.

Q What was the difference?

A Well, the difference was essentially that he consented.

Mr Mills: Let me interpose a formal objection here to the immateriality of this at this time.

Mr Lewers: It may be considered as made without repetition, if you desire.

Mr Mills: Yes, and any other objections that I may have to it.

A Mr Owen continued to regard this outcrop at Crocker Springs, and the continuation of it south-eastward as outcropping of the oil sands. I did not. I believe that the oil sands lay farther east, and while I did not find them in the outcrop in the Midway field directly, I found them to the South of the Midway field near Sunset, and I found them to the north of McKittrick in the Gould Hills. A definite outcrop showing considerable relation to the Santa Margarita

formation below, and I showed these to Mr Owens and tried to explain to him that this formation was the horizon that carried the oil sands. The third place was right near the town of McKittrick where the oil sand crops out and the fossil beds along with them, so that there need not be any doubt as to placing pretty accurately the stratigraphic position or horizon of the oil sands. I had three points within the limits of this reach where the Etchegoin points crops out and carried fossil evidence of which we could definitely locate their position in the stratigraphic scale. [1942] And also in each of the three places they showed the oil sands in such a position and relation to the developed fields and to the prospect wells as to leave no doubt as to the facts. Mr Owen never fully grasped this matter, as far as I can discover.

Mr Mills: I object to that statement as a conclusion of the witness not borne out by any testimony in the case, and a mere conclusion, and as incompetent. And I move that it be stricken.

Mr Lewers: The answer will stand. You may proceed.

A Furthermore, after finding these outcrops, I was enabled to measure the overlying strata or estimate the thickness of the stratigraphic beds or of the strata superimposed upon the oil sands and this I did. I made an estimate as to the thickness of the strata that were overlying the oil sands near the town of McKittrick.

Q What was that estimate?

A That is, taken in connection with the logs of

the wells which were available at that time in the McKittrick field. I concluded that the Etchegoin formation in this McKittrick and Midway and Sunset Districts had an average thickness of eight or nine hundred feet — stratigraphic thickness — and that superimposed upon the Etchegoin was a great thickness of strata which aggregated more than 2000 feet. I made an attempt to measure this strata overlying the Etchegoin at two points. At one point they aggregated over 1900 feet in thickness and at the other point something over 2100 feet in stratigraphic thickness. I had reason to believe that that was not the total thickness of the series as it had been deposited, for the reason that the exposed rocks had been reduced in thickness by erosion to an unknown extent at both points. I could definitely measure at those two points these thicknesses of the strata, and did so. Does that answer your question? [1943]

Q Now, what distinction if any was there between the Santa Margarita formation and the last formation that you have mentioned as being about 2000 feet thick, as to their origin, as to whether one was marine and the other not?

A The Santa Margarita formation and the Etchegoin formation are both marine. The later formation is of a fresh water origin and belongs to the group of strata that I call the Tulare formation. That name is in current use in the literature.

Q What term is applied in Bulletin 406 to the various strata that you have mentioned?

A I believe that the authors of Bulletin No. 406

confined the Tulare and Etchegoin under one formation that they called the McKittrick series.

Q Then when they refer to the McKittrick series, they are referring to what you denominate as the Tulare and the underlying Etchegoin? Is that correct?

A Yes.

Q Now, did you reach any conclusion at that time — I mean during 1903 and '04 — after you had determined this thickness of the Tulare formation independently of McKittrick, as to its probable thickness as it dipped towards the San Joaquin Valley or away from the Temblor range.

A I would say, as I did before, that in the outcrop along the foothills in the vicinity of McKittrick this series is reduced in thickness by erosion. That is one fact to be remembered. Another is that the thickest part of any sedimentary series is usually found in the central part of the basin in which it is deposited, particularly if the basin is of limited dimensions as it was in this case. The basin of the San Joaquin Valley or the southern end of it is somewhat circular in outline towards the south, west and on the east. That is, the outline of the basin describes a broad semi-circle or more than [1944] a semi-circle. And the sediments coming into the basin during any of these epochs would be distributed more or less all over the floor of the basin from all points of entry. That is to say, a point in the interior of the basin appeared to be and does now to be subject to a greater accumulation of sediments, since it receives contribu-

tions from all points on the shores of the basin. Therefore, the original series in its deposition would be thicker from these contributions, particularly if the sediments were in the nature of clays and muds which would be readily carried about. The action of the water in sorting these materials and distributing them builds up the thickest accumulation in the central part of the basin, and would in this case.

Q Now, taking that statement as you have given it, did that cause you to form any conclusion during those two years as to whether or not this overlying Tulare fresh water formation would be thicker or thinner as it approached the Elk Hills?

A Very logically as the Elk Hills stand out toward the interior of the basin, this formation would be thicker in the position of the Elk Hills than along the shore-line or along the borders of the basin where it was originally thinner and where it has subsequently been reduced by erosion.

Q Now, coming back to the discussion between yourself and Mr Owen about the oil-sands, as I understand you to state, you concluded that the sands at the base of the Etchegoin were the oil-sands — is that correct?

A Yes sir.

Q And the Etchegoin at that point is the formation immediately overlying what is known now as the Santa Margarita?

A Yes sir.

Q Now, where were the sands that Professor Owen claimed to be the oil-sands, situated with ref-

erence to the Etchegoin and the Santa Margarita?  
[1945]

A Why, they were farther around, farther back on the slope of the Temblor Range.

Q But with reference to their being in the Santa Margarita or Etchegoin, where were they?

A They were older and deeper in the stratigraphic series than the Etchegoin.

Q If those sands that he referred to as the oil-sands, were older and deeper, and were in the Santa Margarita, would they, underneath the Elk Hills, be deeper still than the Etchegoin sands that you had in mind?

A Well, I have not admitted that either one underlay the Elk Hills; but the stratigraphic level to which they belong might be carried beneath the Elk Hills and that plane, if I may so call it, for the Santa Margarita, of course, would be much deeper than the corresponding plane for the Etchegoin.

Q That is, you mean that the sands might themselves not persist under the hills, but that something corresponding in period would — is that it?

A Something corresponding in stratigraphic position.

Mr Mills — I object to that for the reason that the witness has not made that statement; also, it is leading and suggestive.

Mr Lewers — I want you to explain what you mean by that. What do you mean by the sand stratigraphic series?

A I don't know that I get your idea, Mr Lewers.

I stated that the — Please read my statement there.

(Last answer of the witness was then read by the reporter.)

Mr Lewers — What I am trying to get at, Mr Anderson, is an explanation of what you mean when you say that sands that were exposed along the Temblor Range, which you concluded belonged to a period which you now call the Santa Margarita, would not, you say, certainly go underneath the Elk Hills? Now, what would be the reason, if that were true, in accordance with the [1946] conclusions you then reached?

Mr Mills — Now, I object to that question, for the reason that that re-states what the witness has already said he did not testify to. He stated that he had not admitted that either one of these sands went under the Elk Hills, but that the stratigraphic series—

A Plane.

Mr Mills — — Plane, went underneath the Elk Hills, as I understood his testimony.

Mr Lewers — Yes, that is the way I understand it.

A What is the question, then, Mr Lewers?

Mr Lewers — Well, in short, if you have a stratigraphic plane showing sand at one point, will it show sand at all other points of that plane?

A No. As you follow that stratigraphic plane away from the shore-line conditions, or from shore conditions, it becomes less sandy and composed more and more of finer sediments like clays and muds, so that a sand that represents shore conditions in the outcrop, might pinch out in a very short distance,

and not be represented by sands at all, although the stratigraphic plane might be continued indefinitely under the floor of the basin.

Q From the time when you went into the employment of the Southern Pacific Company in the geological department, you have stated that you examined various fields or territories, some of which you have outlined. What, if any, instructions did you have as to where you should go?

Mr Mills — Were those instructions in writing or given orally?

Mr Lewers — Let us see what they were.

Mr Mills — Let us understand that first before the question is answered. [1947]

A As a matter of fact, there were no instructions — practically none at all — either in writing or verbally, except a very general one to make what geological study I could of these valley borders in the oil districts, with a view to developing geological information, all of which was preliminary to the specific purpose of selecting lands that could be taken over for the Kern Trading and Oil Company. It was a very general sort of instruction, the instructions that I got, and both Mr Owen and myself were left to follow our own devices in making it out, and our own convenience to do this work in connection with other work that we were doing in other parts of the country. We were given the most general sort of instruction.

Mr Lewers — Well, were there any limitations as to where you should go?

A Not at that time; not prior to 1907, I should say.

Q Now, what conclusions did you reach yourself, Mr Anderson, in connection with your work in 1903 and 1904 as to the methods of migration and accumulation of oil?

A Do you mean what theories did I hold as to the methods of oil migration or accumulation?

Q At that time, yes.

A Why, my views on that matter, I think, have been clearly stated in one of the papers that I published.

Q Which paper do you refer to?

A It was the paper on the Kern River — the Neocene deposits of the Kern River region.

Q That is a paper that was published in later years?

A Yes.

Q Does that represent the views that you held in 1903 and 1904?

A It does. It represents the only views I ever had of the origin and accumulation of oil. [1948]

Q I have that paper here. What portion of it is it that you refer to, Mr Anderson?

A It is found on page 116 and page 117. I think probably the best answer that I could give to this question of yours is to ask some one to read this published statement.

Q Well, now, I want to see whether that fully answers the question. On page 116 of the Proceedings of the California Academy of Sciences, Fourth

Series, Volume 3, issued November 9th, 1911, appears the following:

Mr Mills — I wish to object to any reading of this report into this record. The witness is still alive and in fairly good health and can testify.

Mr Lewers — “The opinion has been unequivocally expressed, (referring to the foot-note, United States Geological Survey Bulletin No. 357 at page 73) that in the Coalinga field the real source of the petroleum is in the Eocene shale underlying the Neocene, and that migration of the petroleum upward through the strata has brought it into its present repositories in the Neocene oil measures. That petroleum in some parts of the Mt Diablo Range and elsewhere has originated in the Neocene, cannot be denied, and it is also now found there in many places. But to conclude that all or any of the Neocene oil measures have derived their supplies from the Eocene is illogical and unnecessary. The Neocene beds themselves contain the same organisms in even greater abundance than does the Eocene, and this is particularly true of the Mt Diablo Range. And there is no reason to suppose that the oil found in the Neocene measures has not originated in the Neocene strata themselves. The view here expressed is that the oil found in any Neocene group has more probably originated in that group, and that migration would be far easier along the planes of beds and lamination than at right-angles to the same. That thick beds of clay and shale often restrain oil, water and [1949] gas, is quite well demonstrated in California, and

even within the Temblor basin the upward transverse migration of these substances under normal pressure has been successfully resisted by certain impervious beds of these clays.

“Naturally in the sedimentation of any basin the sandy detritus usually remains near shore, and the finer materials are carried away to other localities to be deposited. Also if Diatomaceae and other delicate organisms form any appreciable deposits, they will more probably be formed off shore. In subsequent regional deformations of the strata, the organic deposits are apt to be left occupying the position of synclinal depressions, bounded by the sandy shore line deposits left lying in positions inclined toward the interior of the basin. If such organic deposits give rise to any supply of petroleum or other liquid or gaseous substances, these may be forced to migrate laterally along the bedding planes of the strata, and into the sandy strata of the border, far more readily than they could be forced upward through the clays and shales and into overlying beds.

“And, if deposits of petroleum are subsequently found in sandy shore-deposits we may expect to find not far away in the same beds the source and origin of it. Along the Kern River the conditions are all that could be required to support the view that lateral migration has been the means by which accumulation has taken place, and the same may be said of all the other producing or non-producing fields in the Temblor basin. The extent to which water, oil, and gas may migrate laterally along bedding planes in the

progress of geologic periods, is of course, very great; but the fact that it is retained at all in the rocks, even under enormous pressure, is very good proof that it cannot migrate in a vertical direction, transverse to the bedding planes." When was it, Mr. Anderson, [1950] that you formed the conclusions that are thus expressed by you in 1911?

Mr Mills: I believe he stated already that he always held that opinion.

A I think my first grasp of that view was gained from a paper prepared or written by Prof. O'Neil of the University of California, and I don't remember the date of the publication, but it was prior to 1903. And, as I remember it now, that is pretty nearly an expression of his views, though somewhat enlarged. When I came to Kern County for the first time in March, 1903, I quickly recognized the plausibility of that view. It met the requirements of the case better than any conception that I could possibly imagine and the further I have looked into this subject and studied and thought over it, the more firmly I am convinced that that is the sound working hypothesis, and I believe it is the one generally in vogue among geologists. It is the accepted view.

Q By Mr Lewers: Now, taking that as a representation of the view which you held in 1903 and '04, where was it, Mr Anderson, that you expected that oil would be found with reference to the Temblor range, if you reached a conclusion on that point?

A I expected that it would be found in the foothill districts of the Temblor range. That is, in a

comparatively narrow zone flanking the Temblor range. on the northeast, and oil would be found only within the limits of the littoral sands or limits of distribution of the littoral sands or shore sands of the Etehegoin epoch or whatever epoch might have produced the oil-bearing strata.

Q And do you know — (this may be answered by yes or no) — what the general view amongst men who are operating in that field during those years was on that point? [1951]

A I don't know what they generally thought. I didn't talk with very many in regard to that. The only men that I recall talking to are my associates in the Southern Pacific, Mr Owen and Professor Dumble, and such others as might ask me for my ideas on the subject.

Q Then, you are not generally conversant with what oil men who were operating talked about in that connection at that time?

A I think that rather unconsciously and without very definite analysis of their ideas — that they generally took that view of it or some such view.

Q Where were they operating at that time?

A The operations were confined to a narrow zone along west of McKittrick and along the Midway and western borders of the Midway Valley, and the Sunset.

Q Do you know what view — I mean from anything told you by Mr Owen — he held as to the possible occurrence of oil to the west and southwest of

McKittrick, and, particularly, in the vicinity of Crocker Springs?

Mr Mills — That is objected to because Crocker Springs appears to be many miles distant from the lands in suit, and would have probably no bearing on the issue raised in this case.

A The second trip that I took with Mr Owen in March, 1903, was from McKittrick southwesterly to Crocker Springs, and our return to McKittrick was around the foothills in a semicircle back toward McKittrick. He told me at that time that he believed that that was oil land that we were driving over along the northern border of the Midway Valley, now commonly known as the North Midway. He believed that that would be oil land and said so.

Q What did he establish as the south and west border of what he called the oil land there? That is, what geologic [1952] indications?

Mr Mills — I object to that question on the ground that it assumes a fact not in evidence. There is no testimony that he ever established any boundaries.

Mr Lewers — That is his letter in evidence.

A I stated this morning that he showed me the outcrop of Crocker Springs and showed me the continuation of this outcrop to the southeast, to a point west of Fellows, and he told me that that was the outcrop of the oil-sands, and that he did not expect anything to occur back of that. Naturally, I understood that.

Q West of that?

A West of that. Now, I should have stated

awhile ago my own personal view in regard to the matter.

**Q** By Mr Lewers — What were your views at that time with reference to oil being at the place where he said it was in that particular region?

**A** At that particular date I had no particular data by which or on the basis of which I could differ from him. Subsequent work, though, developed the facts as I have stated them before, and I believe that the true position of the oil-sands would be further to the northeast a mile or more. In fact, I thought they would lie somewhere near Fellows or in that immediate vicinity — probably a little west of it. Now, one of the things that led me to this conviction, and I should have stated it before, was this: That in following this outcrop of the sands described as Santa Margarita, they led to the southwest of the Chanslor-Canfield property, for instance, on Section 8, Township — I will have to look at a map — Section 8, Township 32 - 23 — I undertook to make an estimate of the thickness of the beds between this outcrop of supposed oil-sands to the southwest, and the producing wells of the Chanslor-Canfield [1953] property, any my estimate of the stratigraphic thickness of the beds exposed to the southwest of the wells that had been drilled was about 4500 feet, and yet these wells all derived their oil from a depth of about 1200 feet. That is, the wells were only from a thousand to 1200 feet deep in general, while the outcrop of the strata between the wells was 4500 feet.

Q How did you reconcile that in your own mind at that time?

A As I stated before, that was one of the reasons why I did not believe that this outcrop was the outcrop of the true oil-sands.

Q What conclusion or conclusions did you reach during those years with reference to whether the Temblor Range was a part originally of a large body of land or of a smaller body?

A In September, 1903, as I stated this morning, we crossed the Temblor Range from McKittrick westward toward the Cariso Valley, and we found flanking the range on both sides the same stratigraphic series belonging to the later Neocene epoch, on the one side, including the oil measures and the beds of the Santa Margarita, and the other side the same beds, a large area of formations much older intervening. That is, the central axis and the central area of the Temblor Range was of an older series, and we found evidence of shore conditions along both borders of this older area.

Q What conclusion did you draw from that evidence?

A That this area represented an island in the epochs represented by these deposits.

Q Did you find any evidence of river conditions anywhere on that West Side?

A No; I did not. All the streams that we had any evidence of or could conclude existed there at all must have been very small streams. There probably was recognized a considerable [1954] stream coming into

the border of the basin from the south, from the direction of Pine Mountain, but nothing from the direction of the Temblor Range excepting local and small streams and gulches.

Q Has there, Mr Anderson, been any change or development in the general geologic knowledge of the oil conditions in California since you first went into the West Side fields in Kern county?

A Undoubtedly there has been a change in the knowledge of geological condition in and about these oil districts. Certainly. It would naturally be expected in the progress of development and the progress of geological study that the views and conclusions would be altered and developed.

Q What was the state of progress at that time of the geological knowledge in California of oil conditions?

A Well, it was very immature. There was but little known concerning the stratigraphic and structural features of these oil districts. The work of Mr. Owen and myself in there was in the nature of pioneer work in unknown fields. Nothing practically of consequence had been published with reference to the geology, and the papers that I have prepared at that time were in the nature of pioneer work, and I think they probably contributed considerably toward the development of the geological information.

Q Now, is there any other conclusion or any other evidence that you made use of in drawing your ultimate conclusions about that territory in 1903 and

1904, besides what you have outlined already, that now occurs to you?

A Yes, there is. It was a common belief among operators that if you got far enough away from the foothills and from the outcrop of the oil-bearing beds, that you get into water conditions; and I remember particularly the case of one company, [1954] and the advice this company received from their own geologists as to that. Also Professor Watts has published some things in that regard that reflect the general views pertaining to that subject.

Q In which bulletin was it that Professor Watts' views are set out in that respect, if you know?

A I believe it is Bulletin 19.

Q Of the State Mining Bureau of California?

A Of the State Mining Bureau of California.

Mr Lewers: Have you that? I haven't one here.

Mr Mills: No.

Mr Lewers: Did that view which you say was generally held at that time, have any influence upon you in reaching any of your conclusions at that time?

A Well, it made me less — I should say, rather, it made me more conservative, naturally, in regard to the extent that I thought that the oil might extend. I don't know that it had any effect upon my conclusions really. If it had any effect, it was to make me somewhat more conservative, as I always regarded Mr Watts as a man of ability and high standing. Mr Watts is a personal friend of mine, and I felt that he knew a good deal about the oil formation of the country.

Q Did you have any conversation — this can be answered by yes or no — with Professor Owen with reference to these water conditions that Mr Watts referred to?

A Yes, I did.

Q When was that — in what year?

A Well, I can't know that. I would not undertake to make any statement of what Mr Owens think in reference to that. I think, though, that he felt that there was —

Mr Mills: Now, I object to any evidence by this witness as to conclusions reached by another man now dead, unless he can [1956] give the conversation and the time and place where it occurred.

Mr Lewers: Can you recollect, if not the exact conversation, the substance of any conversation you had with him at that time on that subject, or at any time?

Mr Mills: The witness has already stated that he cannot do that.

A I cannot be sure of any conversation bearing upon that particular topic. I can only give my general impression as to his attitude.

Mr Lewers: If that is not based upon any conversation, of course I don't want it.

A It is based upon conversations, but I cannot recall the details of those conversations. I can recall the methods that we pursued, and the lines of reasoning that we pursued. We often talked of these matters, for we travelled and camped together weeks at

a time, and all these subjects were subjects of conversation between us.

Q Now, will you state more in detail what he told you about his observations in the Elk Hills during those two years?

Mr Mills: Hasn't that been covered in this morning's session?

A I hardly think that I made a complete statement as far as I could of what he had said to me. He said that there was no outcrop of marine beds as far as he could discover, and no fossil beds of any kind cropped out in the Elk Hills.

Mr Mills: I think he testified to that this morning.

A Yes. Well, there is one other thing I did forget, that I would like to add to it.

Mr Mills: I think this is all objectionable. I have not objected to it heretofore, but I hope counsel will finally get down to something about the lands in this suit.

Mr Lewers: What was that additional matter? [1957]

A This was not, I believe, a topic of conversation — I don't think he mentioned it on my first visit there at all — but sometime in 1904 — I don't recall the date — I spoke to him about seeing some alluvial gravels on the hills north of McKittrick, and expressing some surprise at the fact that deposits of alluvial gravel should be found on the McKittrick hills north of McKittrick. He said he could tell me a more astonishing story than that; that he had seen these alluvial gravels over the surface of the Elk Hills, or

these hills that lie to the southeast of McKittrick known as the Elk Hills. That has its bearing upon the question.

Mr Mills: I object to that statement by the witness because it is a mere voluntary statement not called for by the inquiry. I am further confirmed in the belief that it is offered for the purpose of bringing a conclusion before the court that the court can well arrive at upon knowing what the conversation is.

Mr Lewers: Now, Mr Anderson, did he, in any of those conversations in 1903 and 1904 say anything about a gas blow-out or oil seepage or anything of that kind, or asphaltum indications anywhere in the hills now known as the Elk Hills?

A No, he did not. He had never seen anything of that kind at that time that he mentioned to me.

Q Now, leaving the period of 1903 and 1904, and basing your answers upon all of your observations of the geology of that entire territory on the west side, will you give, in your own way, an outline of first the geographical situation of the Elk Hills and the other hills in the vicinity, the Temblor range, and so forth, and then a description of its physical history, or stratigraphic history?

A That calls for a rather extended talk, Mr Lewers.

Mr Mills: Yes, I agree with the witness, that it is call-[1958]ing for a book on geology here which is not calculated to throw any light on the matter at issue. I should like to have counsel, if he will, sometime today get down to this witness's opinion about

the oil character of the lands in suit, which seems to be the only thing in dispute here.

Mr Lewers: You may proceed, Mr Anderson, notwithstanding the wishes of counsel. He can get them in due time.

A The Elk Hills, now known as the Elk Hills, form a physiographic unit, almost isolated from any other group of hills in this region, and with relation to the outcrop of the oil formations, they are a long ways out in the interior of the basin — from six to fourteen miles from the outcrop of the oil-bearing series. I have a map here that will illustrate this somewhat better than I could state it, and I would like to present this.

Mr Lewers: What is used as the basis of that map which you have now called my attention to?

A This is a topographic map here by the United States Geological Survey.

Q And by whom was the additional matter placed upon that map?

A I placed these lines on the map myself to indicate features that I wished particularly noted in connection with it.

Mr Lewers: We offer this map in evidence in connection with the testimony of the witness.

A The line colored green extending through the Elk Hills marks the approximate position of the axis of the anticline, or the axis of the chief anticline in those hills. There are subsidiary anticlines to the north and south not marked.

Q Describe the rest of the map, what it indicates.

A The dotted line, bordered in red, traversing the country southwest of McKittrick, and extending to Maricopa and [1959] and Sunset, is the approximate position of the outcrop of the Etchegoin sands as near as I can locate them.

Q Have you so denominated it on the map?

A Yes. The red line traversing the country from near McKittrick in a south easterly direction to the Buena Vista Hills, marks the approximate position of what may be called the Buena Vista anticline.

Q What are the blue lines an indication of?

A Blue markings indicate the general position of the Monterey rocks, and older rocks along the axis of the Temblor range.

Q And how have you indicated the Santa Margarita epoch?

A I have merely indicated that by writing in red pencil the general position of the Santa Margarita, applying between the Monterey and the Etchegoin.

Mr Lewers: I ask that this be marked as an exhibit.

The map last referred to and offered in evidence is marked "Defendants' exhibit 19, L.L."

Mr Mills: No objection to the map.

Mr Lewers: Now, you may proceed first with the discussion of the geographical situation, unless you have completed what you desire to say on that.

A You asked me for a recital of the principal events in the physical history of the region covering the valley borders, and the foothills and the Temblor Range.

Q That is right.

A I think that it is unnecessary to go farther back probably than the Monterey rocks — The rocks of the Monterey epoch, the middle Miocene. Following the epoch of the Monterey, there was a general disturbance that affected the Temblor Range, and induced unconformity. I believe there was an interval of erosion along the shore lines. [1960]

Q What do you mean by “unconformity” — what is intended by that expression?

A Unconformity between the stratigraphic groups is a phenomenon that is developed by a difference in age and a difference in physical history. I can illustrate it better by saying that if the shore line of any epoch suffers an uplift the water is driven away from that position to some new position. The original shore line stands subjected to areal erosion. Finally a subsidence of this region will induce a return of the water and the deposition of a new series of sediments upon the old, with an angular difference of strike and dip between the two series. It is an event that always is noted at once by the geologists, or it is a fact that is always noted by geologists, that speaks very clearly of a physiographic event — historical event in the geological history of the country.

Q Now, before taking up in detail the various epochs that are represented there, what is the reason for applying terms “Monterey” and “Santa Margarita”, “Etchegoin” and other terms? Are they universal or local?

A These are more or less local and not used very

much outside of the limits of what has been defined as the Temblor basis or this region of the Mount Diablo Range. The reason for separating these groups is that each group forms a stratigraphic unit.

Q Separated by unconformities?

A Separated from each other by unconformities.

Q Now, starting again, as you did from the Monterey.

A Following the epoch of the Monterey, there was a period of disturbance, as stated, and an uplift and an interval of land erosion, followed by a subsidence of the valley borders, which initiated the epoch known as the Santa Margarita. This [1961] epoch and subsidence and accumulation of Santa Margarita strata, continued a long time, during which the Santa Margarita group was deposited and accumulated within the basin. At the close of the Santa Margarita epoch, there was another uplift, a shifting of the shore, with a slight interval of land erosion, followed by a subsidence, during which the Etchegoin group was deposited in the epoch known as the Etchegoin epoch. At the close of the Etchegoin epoch there was another interval of disturbance in which the sea water was entirely excluded from the basin never to return, and the next series of strata following the Etchegoin is one of fresh water origin known as the Tulare. The principal events of the geological history have been pretty well outlined in this paper referred to in this discussion of the Kern River region. If I may refer to that paper, I can show you a graphic representation of this physical

history. Opposite page 118 there is a graphic representation of the oscillations that affected the Temblor Range and the immediate surrounding region, and in fact all of the Temblor basin, and in part, of the whole coast of North America. The oscillations are represented by the curved and undulated line which traverses this diagram. I think in general the diagram will speak for itself.

Mr Lewers: I offer this diastrophic record appearing opposite page 118, of the paper just referred to by the witness, in evidence, for the purpose of illustrating the testimony of the witness.

Mr Mills: This is objected to as irrelevant.

A I would like to explain to Mr Mills.

Mr Lewers: You may proceed with the explanation.

A This diagram is an attempt on my part to represent by this means the consensus of opinion of California geologists as to the principal geological events of the Tertiary and later periods. And it follows, in general, and very closely, the [1962] events as expressed by Dr. J. P. Smith in a paper written by him and published, a page of which is represented in this paper opposite page 106. This page opposite page 106 is taken from Prof. Smith's publication and used here by his personal consent.

Q Now, during what portion of that series of changes from epoch to epoch that you have outlined, did the Elk Hills come into existence?

A The group of hills known as the Elk Hills seems to me to have been of very late origin, and I

believe that is the view expressed by the authors of Bulletin NO. 406, and is one of the latest events of the physical nature of the country, and is depicted here on this diagrammatic scheme in the last uplift at the right-hand side of the page, over the word "Recent".

Q That is, the Elk Hills would correspond to the last period indicated on that diagram?

A Yes.

Q Now, diverging for a moment to the matter of the alluvial sands, that have been referred to as being in the Elk Hills, have you seen those there yourself?

A I have — alluvial gravels.

Q How do you account for those being there, if you can do so?

A There is only one way of accounting for the alluvial gravels appearing over the surface of the Elk Hills. They are found on the summits of all the ridges, and form a sort of blanket formation on the summits of the ridges of the north slope and on the south and on the summit. This blanket has, of course, been dissected by the erosion that has subsequently affected the Elk Hills — That is, affected the Elk Hills subsequent to the deposition of these gravels. These gravels are properly interpreted as being deposits formed on the land surfaces by stream or gulch erosion. They are the alluvial deposits [1963] and an alluvial plain formed by the detritus carried from the Temblor Range during the recent epoch or during the epoch described on this diagram as the Champlain. It forms the closing epoch of the Pleistocene

period. These alluvial gravels are to be correlated directly with similar alluvial gravels found to the south of Kern River, and referred to in this papers.

Mr Mills — I will ask counsel if he regards it as important that this matter is referred to in that paper.

Mr Lewers — I don't know that it is important that it is referred to in the paper, no. I regard the gravels, however, as a matter of accumulation there, as quite important.

A I will give you a reference to the page.

Q I hardly think that is necessary.

A All right. These gravels on the eastern side of the valley are in the vicinity of Caliente Creek.

Q Now, prior to the Pleistocene period, during which, as I understood you, there was a general or continent uplift, from this diagram — is that correct?

A Yes.

Q —Was there, according to the conditions shown by the geological history of that territory, an opportunity, in your opinion, for the deposition of alluvial gravels in the region now covered by the Elk Hills? Do you understand what I mean?

A That is too long a sentence for me to undertake to answer.

Q I will put it in another way. You have stated that these gravels were deposited during the Pleistocene period — these alluvial gravels that are not in the Elk Hills.

A Yes.

Q Could similar gravels have been deposited earlier than the Pleistocene period?

A Well, they obviously were deposited at all periods in [1964] some part of the earth.

Q I mean in that territory.

A You mean in the vicinity of the Elk Hills?

Q Yes.

A There is no evidence of any such, and I think it is very improbable. As I stated before, it was only the valley borders that appeared to be affected by these oscillations. These oscillations disturbed, of course, the continuity of the stratigraphic deposition, and they are seen only and they are found only along the shores, and not in the interior of the basin. There could be no opportunity, of course, to investigate, by the outcrop, at least, and there is no reason to believe that it was deposited before this Champlain epoch of the Pleistocene.

Q Prior to this epoch, if you say the disturbances affected the shores, in your opinion what was the condition where the Elk Hills now are as to being on the shore or under water?

A They were under water. My conception and my opinion as to the condition of the locality of the Elk Hills is that it was undisturbed sea bottom. That is, undistorted by any of these oscillations prior to the very last.

Q Now, locating the point of elevation and disturbance by the names of ranges or other local names that are applicable and descriptive, where was it in the vicinity of the Elk Hills that the disturbance or

uplift was shown during those various periods? — with reference to the Temblor Hills, for instance?

A Please read the question.

Q I will re-frame the question and make it shorter and more to the point. You have stated that in your opinion the situation prior to the Pleistocene period where the Elk Hills are now situated was undisturbed sea bottom. At that time what was the situation where the Temblor Range now is? [1965]

A The Temblor Range seems to have been an island almost continuously and, in fact, I will state, continuously since their uplift at the close of the Monterey epoch, and probably in part long before the uplift at the close of the Monterey epoch. There are some very old rocks in the Temblor Range, dating back to the cretaceous and pre-cretaceous periods.

Q Now, when this uplift occurred at the Temblor Range, what effect did that have upon the plane of the Monterey beds?

A It inclined them, of course. The Monterey beds were all left in an inclined position, with a dip in one direction or another, or, more or less, both.

Q And what effect, if any, would this have upon the migration of any oil that might be present in the shales of the Monterey epoch?

A It would induce a migration toward the valley borders. As soon as the distortion of the strata began and some portions were lifted higher than others, there would be induced a lateral migration of any oil that might be within this strata, towards those higher portions of the strata.

Q What would induce that?

A Generally the hydrostatic conditions — water conditions. Whatever water there might be would drive the oil out of the synclinal portions of the basin toward the border.

Q Now, after the Monterey epoch, I understand you there followed the deposition of the Santa Margarita epoch.

A Yes sir.

Q Of what does that consist generally?

A About the borders of the Temblor Range, on the foothills, the Santa Margarita group consists of conglomerates, sandstones and shales, the upper member being organic shales, the lower member rather conglomerates or boulders.

A Was there any tilting of the Santa Margarita beds [1966] similar to that of the Monterey beds?

A After the deposition of the Santa Margarita strata they were folded about their borders and were also left in an inclined position resting upon the Monterey older beds, but inclined at a different angle.

Q Would the same process as to the migration of oil take place in the Santa Margarita epoch that took place by reason of the tipping of the Monterey beds, if any oil were in them?

A Certainly; if there was any organic material or any that could be the source or origin of oil, or if there was any oil in the strata of the Santa Margarita group, within the limits of the basin, as soon as the Santa Margarita rocks were tilted and inclined, the migration of oil in these beds would naturally begin,

and the segregation of this oil about the borders of the valley, would begin to progress.

Q Now, following the Santa Margarita came what you have termed the Etchegoin period?

A Yes.

Q Did any similar disturbance and tilting take place in connection with that?

A Certainly. As I have already stated, at the close of the Etchegoin epoch there was a disturbance and folding of the Etchegoin strata, and about the borders of the basin these strata were left in inclined positions dipping toward the central part of the basin.

Q And in your opinion, what one of those formations contains the oil measures of the West Side field?

A As I stated this morning, the Etchegoin group.

Q Now, during the time when the Etchegoin epoch or the Etchegoin strata were tilted as the result of the uplifting toward the shore-line of the Temblor Range, were the Elk Hills in existence? [1967]

A No; apparently not. At least, there is no evidence that they were, and the only evidence we have is to the contrary; That the folding of this Etchegoin group did not include the area covered now by the Elk Hills.

Q Now, is there any distinction in your opinion, basing your opinion on any observations and conclusions that you reached from an examination of that territory, between the age of the Elk Hills and the Buena Vista Hills? Is there any evidence indicating that they are of the same age or different ages?

A Is there any evidence, do you mean, as to the time when the folding of these anticlines began?

Q Yes.

A Yes. In the Buena Vista Hills we have a definite evidence of unconformity on the axis of this anticline, which is to be interpreted as meaning that this anticline began its development at the time of the uplifting of the Etchegoin. That is, at the close of the Etchegoin epoch.

Q What is that evidence?

A It is the outcrop of marine beds showing shore conditions and unconformity. There are beach gravels and marine shells of beach-loving character, and rocks penetrated by borers, that showed that there was an uplift here prior, in fact, to the Etchegoin epoch; that this folding began prior to the Etchegoin. It must have, because the base of the Etchegoin contains these marine animals that show that at this point on the anticline there was evidence of an uplift prior to the beginning of the Etchegoin, and similar conditions are to be found following the Etchegoin.

Q Is there any such evidence in the Elk Hills?

A None that I have ever seen. I don't know where to look for them if there are any. What evidence there is in the Elk Hills is rather to the contrary. [1968]

Q In what way?

A Well, the absence of any such conditions as these, and the very much gentler incline of the formations.

Q Is there any difference in the amount of erosion

evidenced on the Buena Vista Hills and that evidence on the Elk Hills?

Mr. Mills—That has been gone into this morning.

Mr. Lewers—Not in detail.

A. This was mentioned this morning in the testimony; that the erosion and erosional effects are much more prominently conspicuous in the Buena Vista Hills than in the Elk Hills. The erosion in the Elk Hills is comparatively slight and has exposed not more than four or five hundred feet of strata, apparently the upper part of the Tulare formation. While in the Buena Vista Hills the erosion has exposed strata to a thickness of more than 1500 feet. That is to say, judging by the amount of strata exposed on the two anticlines, one is at least three times as much as the other—the erosion. The erosion in the Buena Vista Hills is three times as much as in the other.

Q. What does that indicate to you geologically as to the relative age of the two hills, the Buena Vista Hills and the Elk Hills, the two uplifts?

A. It indicates to me that the uplift of the Buena Vista Hills is much older and has suffered much longer erosion.

Q. Now, you have indicated on this map which you have prepared a red line from McKittrick down to the Buena Vista Hills. What is that intended to represent?

A. That is intended to represent the approximate position of the axis of the Buena Vista anticline and

its mergence with that of the McKittrick. It merges into the McKittrick anticline to a considerable extent. I won't say that the two are exactly in alignment, although the folding is evidently the same [1969] and has followed the same general history.

Q. When was it that you first reached that conclusion?

A. Just which conclusion do you mean?

Q. I should be more specific in my question. When was it that you first reached the conclusion that there was probably a connection between the McKittrick anticline and the Buena Vista anticline?

A. I reached that conclusion very early. In fact, at my first visit. That was Mr. Owen's statement to me of the facts, and I took that as correct, and subsequently found them to be about correct or approximately correct.

Q. What was your own individual opinion in 1903 and '04 as the result of the work and examination you had made in that territory as to the Elk Hills being oil land?

A. My conclusion as to the likelihood of the Elk Hills being then or ever being oil territory was negative. That is to say, I did not believe that they were oil-bearing or ever would be found to be oil-bearing. At least, not in paying quantities—not commercially oil-bearing. I suppose that I did expect there might be some insignificant deposits of oil found in them, as there might be in any part of the country between Sunset and Coalinga if there was a well put down in

these beds. All of them throughout their whole extent are more or less organic in character, and if a well is put down in a strata containing these organic materials, there would be insignificant and unimportant occurrences of gas and oil found nearly anywhere, and that has been generally the case wherever wells have been drilled so far as I know. But as to these hills containing any commercial deposits of oil, I didn't believe they would, and I don't now believe they would.

Q. Well, now, why was it that you reached that conclusion at that time? [1970]

Mr. Mills—I object to that question, because the gentleman says he has spent all this time during the day leading up to his conclusion. Do you want him to traverse that whole subject again?

Mr. Lewers—not necessarily.

Mr. Mills—He has given us the Etchegoin and several other things that led him to that conclusion; difference of formation.

A. There is one detail that I would like to bring out at this particular point, and that is this: That I didn't believe the sands of the Etchegoin shore could ever be carried to the position of the Elk Hills, and, if it ever did, or any part of it ever reached that, it would exist there in very thin strata, only sufficient in thickness to allow a flow of oil, perhaps, along it, in its progress of migration elsewhere. But I have never expected to find in the Elk Hills any considerable thickness of sand in the position of the Etchegoin or any other, for the simple reason that they are,

in their geographical position, so far away from the source of sandy material—the shore-line. And, furthermore, the migration of oil began across this area in the early epochs of the Neocene, that is, in the Monterey and throughout the Santa Margarita and Etchegoin and the Tulare epochs, which covers a long period of time; and that the region of the Elk Hills and all of the interior of the basin in this progress of migration would be almost depleted of any contents of oil; that the Elk Hills might have, or the region or district of the Elk Hills might have, at some time contained an avenue along which oil did migrate, but that if there was any in it now it would be the tail end of the procession and not in commercial quantities and not significant as commercial deposits.

Q. By Mr. Lewers—Well, did you at that time form any conclusion as to the depth at which the Etchegoin formation would be encountered in the Elk Hills? [1971]

A. Well, as I stated before, I did make some attempt to measure the thickness of the outcrop of the Etchegoin and the Tulare formation overlying it, and together they would aggregate considerably more than 3000 feet, and I concluded, therefore, that if there were Etchegoin sands in the position of the Elk Hills, they would be very thin and very deep below the surface—more than 3000 feet, at least.

Q. Did you ever have any conversation with Mr. Owen as to the matter of depth of the Etchegoin in the Elk Hills?

A. I don't know that I ever had any conversation

with him as to the depth of the Etchegoin; but of the beds likely to carry oil I did; that is, the beds that would carry oil if any did.

Q. What was that conversation? Give the substance of it?

A. Well, Mr. Owen told me that it was his opinion that if there was any oil under the Elk Hills at all it would be very deep and the sands would be thin. His view of this was developed in the progress of our conversation about the matter, and we looked at it harmoniously and from the same point of view and reached our conclusions by the same process of reasoning. There was never any difference of opinion between Mr. Owen and myself, as far as I know, as to the depth at which these Etchegoin beds, or the strata corresponding to the oil measures, would be reached in the Elk Hills.

Q. At that time what, if you know, was the generally regarded practical limit of well drilling?

Mr. Mills—That is objected to as immaterial and irrelevant to any of the issues in the case.

A. In 1903 and '04, I don't believe that there were any wells producing in California from a depth of 3000 feet. There was a well drilled in the Kern River field known as Grace well No. 5, of which I have seen a complete log, that went to the [1972] depth of 3166 feet. I will remark, however, that there was no oil found at that depth. This merely was to show that wells could be drilled and had been drilled to more than 3000 feet. But it was not generally considered

as a practical proposition. It was expensive and accompanied with a very great amount of difficulty and uncertainty as to economical results to put down a well to that depth. There were not many who could succeed in doing so by the means which were then in vogue. The rotary drill had not been introduced into California at that date, and drilling was done by the Standard methods; and I should say that 2000, or, at most, 2500, feet, was generally considered the limit of practical drilling.

Q. Would you at that time have advised any one to sink a well for oil in the Elk Hills?

A. I would not.

Q. Would you have advised any one to acquire the Elk Hills for their oil value?

A. I would not. I didn't believe they had an oil value, and therefore I would not have advised anybody to acquire them for any value they might have in oil. I never did advise anybody to acquire any property there, and have advised them to the contrary.

Mr. Mills—I move that the last part of the answer be stricken, as not responsive.

Mr. Lewers—I submit it is responsive and should stand.

Q. Now, in inquiring this morning as to the employment that you have had since the time you began your active field work as a geologist in the California oil fields, I neglected to ask you whether or not you were still in the employment of the Southern Pacific Company.

A. I have not been in the employment of the Southern Pacific Company for more than a year and a half. [1973]

Q. And are you now engaged in the general practice as a consulting geologist, or what is your employment?

A. Yes; I am geologist for the Crocker Oil companies, including the Universal Oil Company and the Recovery Oil Company and a number of others in which Mr. Crocker has some stock.

Q. And, in addition to that, are you engaged in the general practice of your profession.

A. Yes; I am. I have the opportunity of doing considerable private work outside of my duties for these oil companies.

Q. Now, prior to the time when you severed your connection with the Southern Pacific Company, did you make any examination of the Elk Hills?

A. I did.

Q. And when was that?

A. I went into the Elk Hills first in 1911. I think it was in April, 1911.

A. And what examination did you make of the Hills at that time?

A. I went in there with an assistant, and together we spent more than a week, I should say—in fact, nearly two weeks—going over the lands involved in this case and all the adjacent and intervening lands, chiefly within Township 30-23, but going out into the surrounding townships to the east and south and west.

Q. What was the nature of your examination? How thorough was it?

A. It was as thorough an examination as our time and facilities would permit. We visited the wells that were then being drilled, and investigated the surface, or the alleged surface, deposits of such things as, so-called, fuller's-earth and gypsum, meerschaum, and various other things.

Q. Now, what was going on in the Hills at that time? [1974]

A. There was considerable work had been done on these surface minerals, surface deposits, such as they are, and there were a large number of wells being drilled, in progress of being drilled. I can't recall just how many. I could, though; if I should take the map I could tell you about how many wells were being drilled and by whom.

Q. Well, what I want to get at is, was there any degree of activity in there at that time?

A. Oh, yes; there was a considerable degree of activity. Everybody was active that was in there at all. There were a large number of companies that were actively prosecuting the work of drilling, hauling in their supplies and building up their camps, and surface improvements and drilling, spending money—lots of it. In fact, the activity was quite considerable—a good deal of interest felt by everybody.

Q. Had there, at that time, been any discovery of oil that you actually observed or that came to your knowledge, in the Elk Hills?

A. No; I didn't see a bit, not a particle of oil, in 1911.

Q. Now, after that examination, when did you next go into the Elk Hills?

A. I next went into the Elk Hills in November, 1912.

Q. At whose request?

A. At the request of the law department of the Southern Pacific Company.

Q. Who accompanied you on that trip?

A. Mr. Luke.

Q. And what examination did you make then?

A. We made a similar examination to the one I made in 1911. We drove over the hills and visited all the sections involved in this case, and the intervening and contiguous sections; in fact, traversed the hills from one end to the other, going as far east [1975] as Section 12 in Township 31-24.

Q. And how long were you in there on that occasion?

A. Quite a number of days. I don't recall the exact number, but I should say six or more days, six or seven days.

Q. And what was the condition in there at that time as to activity in oil work?

A. Well, there was no activity at all. The hills had been deserted by all the people that had been there a year before. There were a great many derricks and rigs standing idle, and a general appearance of abandonment everywhere. There were one or two care-takers of property. Aside from that we saw

no activity at all, except in Township 31-24 we met some men that were at work on these surface deposits.

Q. What were they doing?

A. Well, when we met them they were carrying their shovels and picks on their shoulders. I talked to them and asked them what they were doing.

Q. Well, we don't care for their conversation. Did you see any of the work that they had been doing?

A. I did.

Q. What was it?

A. Excavations in the hillside, digging of trenches and open pits and cuts.

Whereupon the further taking of testimony herein was adjourned until Thursday, February 20, 1913, at 10 o'clock A. M., at the same place. [1976]

On Thursday, February 20, 1913, at 10 o'clock A. M., the further taking of testimony herein was resumed pursuant to the adjournment: Willis N. Mills, Special Assistant Attorney-General, appearing on behalf of the plaintiff; and Charles R. Lewers, Esq., appearing on behalf of the defendants.

FRANK M. ANDERSON

recalled. DIRECT EXAMINATION resumed.

By Mr. Lewers:

Q. Mr. Anderson, did you either in 1903 or '04 report in any way the results of any of your investigations to the land department of the Southern Pacific Company, that is, to Mr. Eberlein's department?

A. No; I think not. I don't recall reporting any-

thing to Mr. Eberlein and I don't know of any excuse I would have for doing so.

Q. Did you know at the time you were in McKittrick in 1903 and in 1904 that lands in Township 30-23 had been selected and patent applied for by the Southern Pacific Railroad Company?

A. No, I did not. I had no information about the application made for them or about the patenting of them until after the patent was issued.

Q. How many shore-lines were you able to determine—that is, shore-lines of how many epochs—in the Temblor Range?

A. At what date?

Q. In 1903 and '04.

A. I couldn't now say that I definitely located more than one, though I surmised two others, with pretty satisfactory evidence as to the definite location of one of them at certain points. That is to say—

Mr. Mills—Just a moment. The last part of that answer is objected to as irresponsible to the question. Whatever the witness [1977] surmised is not called for and would be incompetent.

Q. By Mr. Lewers—You may proceed.

A. The question is a difficult one to answer. In 1903 and '04 our information was somewhat incomplete, and we could only locate the Santa Margarita shore-line definitely at a few points, and that was true also of the Etchegoin shore-line. There were three points on the Etchegoin shore-lines that I could definitely locate. One was the east end of the Gould Hills;

second, near the town of McKittrick on Section 29, and the third near old Sunset.

Mr. Mills—Now, I shall object to any long dissertation in response to a question which calls specifically for a simple answer as to the number of shore-lines which could be determined at any certain period. I purposely refrained yesterday afternoon from objecting very much, in the hope that counsel would get down to some of the issues bearing on the case. But I shall continue to object to any long scientific discussion of simple questions.

Q. By Mr. Lewers—You may complete your answer, Mr. Anderson, if you desire to add anything to it.

A. I don't think that I desire to add anything more.

Q. Have you by subsequent work been able to determine anything further in that connection?

A. Yes; I have.

Q. What have you determined?

Mr. Mills—That is objected to as too indefinite to bear upon any of the issues raised by the pleadings in this case. The question is vague.

A. I have found still other points on both shore-lines, intervening between those then known, which serve to make the continuity of the shore-lines more complete.

Q. By Mr. Lewers—Then, what shore-lines are revealed [1978] there?

A. The shore-lines of the Santa Margarita epoch and of the Etchegoin epoch.

Q. Any of the Tulare epoch?

A. No; not so definitely. There are evidences of shore conditions along the base of the Tulare formation and its outcrop.

Q. Which one of these, if any, extends the greater distance to the northwest?

Mr. Mills—That is objected to as immaterial.

A. You mean which of the two definitely located shore-lines—

Q. Yes.

A. —can be followed further to the northwest?

Mr. Lewers—That is the question.

A. That would be a difficult question to answer. As far as I know now, the best means of locating these shore-lines or following them out is the outcrop of sands that were of shore origin. I can follow the sandy beds at the base of the Etchegoin further to the northwest than I can those of the Santa Margarita.

Q. What is the character of these sands? What are they?

A. They are chiefly granitic and sands derived from metamorphic rock—crystalline rocks.

Q. And where is there any evidence of granite that might be the origin of that sort of sand?

A. As I stated yesterday, the only source of granite debris of which I have any knowledge is in Pine Mountain, which lies to the south of the Kern Basin.

Q. And what was the thickness of the Etchegoin

sands that you found revealed along the Temblor Range?

Mr. Mills—I think that was fully gone into at the session [1979] yesterday, and I object to it on the ground that it is a burdensome reduplication of this record.

A. The Etchegoin formation, as I stated yesterday, has a thickness of from 800 to 900 feet. The oil-sands proper that are contained in the Etchegoin are much thinner. I do not now recall any outcrop of oil-sands that exceed 40 feet in thickness. That was about the thickest that I believe was shown in any of the logs of the wells.

Mr. Mills—I object to that statement again as a purposely intended evasion of the ordinary rules of evidence. It is hearsay, as most of this testimony is, and I don't think counsel should persist in putting in hearsay evidences in this case.

Mr. Lewers—If you make your objections and complete it without further remarks, we will save time.

Q. Mr. Anderson, what data is used by geologists in making an examination of a territory like that in the effort to determine the geological formations—directing your attention particularly to works that have been done by man in connection with them?

A. The geologist uses all trustworthy data that he can collect, of course. Naturally, data that he finds for himself in the outcrops and formations, data that are furnished by any work or excavation or drilling,

and observations made by other geologists in work that he considers creditable, and the facts furnished by observers other than geologists whose testimony or statements he considers creditable.

Q. Is any use made of well logs?

A. Certainly.

Q. I understood you to say yesterday that the Tulare formation was deposited during a fresh water interval. Is that correct?

A. Yes; during an interval of fresh water conditions. [1980]

Q. Would you expect the formation of oil during fresh water conditions?

A. I do not know of any oil deposits that are derived from fresh water beds.

Q. Prior to 1905, that is, in the early development and history of that West Side country, do you know what the general belief was amongst geologists and others concerning the occurrence of salt water at any depth?

A. It was generally believed that the finding of salt water in the wells or formations ended any hope of finding oil; that when you reached the level of salt water you had passed any hope of finding oil, the idea being that salt water underlies the oil formations or oil horizons.

Q. Was there any general or current belief at that time as to the depth below sea level at which that water would be encountered in the interior of the valley?

A. Yes; there was a general belief that at a depth of 1200 or 1500 feet below sea level no oil would be found, but that this water, the salt water, would be encountered.

Q. Now, going back to your more recent visits to that country, particularly in 1911 and 1912, prior to the time you went there in 1911 had you been in that West Side country at all? Say during 1909 and 1910?

A. Yes; I was repeatedly in that country. I can't tell you when, but I was repeatedly there during those years.

Q. What, if you know, caused the activity in the Elk Hills that you have mentioned as existing when you were there in 1911? What influences?

A. I think that the activity was largely in response to two or three causes; One was the increased price of oil. The price of oil went up materially soon after 1907 or beginning, perhaps, in 1907. During 1908 oil brought a very good price, [1981] and also the year following. That naturally stimulated prospecting and the locating of lands and acquiring locations of lands generally. Also, I think, the extension of the Sunset Western Railway up into the Midway Valley stimulated activity to a great extent. Then, also, the drilling of the Honolulu well in Section 10, 32-34, was a factor that stimulated activity in the Elk Hills. Also the publication of Bulletin 406 in which statements were made to the effect that oil would be found along the axis of the hills at a depth—

Mr. Mills—I object to what the bulletin states. The bulletin is in evidence and speaks for itself.

A. —at a depth of from 900 to 1400 feet, and varied within the limits of the Elk Hills within a depth of 2000 feet.

Mr. Mills—That is further objected to for the reason that the witness has erroneously stated what the bulletin states.

A. You say the bulletin is in evidence.

Mr. Mills—Yes sir. The bulletin is in evidence.

Mr. Lewers—I think you will find that statement there, Mr. Mills.

Q. Now, when was it that the Honolulu well showed favorable signs, and what were they?

A. I believe it was in July, 1909, that an enormous flow of gas was struck in this well, and this gas was interpreted to be a very favorable indication of oil underlying the stratum from which the gas came.

Q. At what depth was that gas found?

A. 1660 feet, as I recall it.

Q. Do you remember when oil was encountered in that well?

A. I think oil was found in the early part of 1910. I will state, if you wish, that I measured the flow of gas from that well.

Q. When was that? [1982]

A. Well, it was within a few days after the gas began flowing from the well.

Q. Did you make any expert examination of that territory at that time?

A. Yes; I did.

Q. From whom?

A. You mean after this gas was struck?

Q. Yes. I am referring to the vicinity of where that gas was struck.

A. I was not asked to do it by anybody particularly. I did it out of my own interest in the matter.

Q. Had you at any time previous to that done it for any individual?

A. Yes; I had.

Q. When was that and for whom?

A. I made a report on this land—several sections included within Township 32-24—and my report went to William Matson.

Q. And when was that report made?

A. It was made about August, 1908.

Q. Now, in connection with your investigations in there in 1911, in the Elk Hills, did you at that time make any examination of any of the logs of the wells that were in there at that time?

A. Yes.

Q. And did you at that time make any investigations as to the occurrence of gas in any of those wells?

A. Yes; I noted that the logs showed gas, and I saw one or two wells from which gas had been issuing, particularly the Redlands and the Scottish Oil Fields Limited. Both had reached gas at that time.

Q. What did that gas indicate to you at that time?  
[1983]

A. It did not indicate very much except that gas was coming from the wells.

Q. Were you able to determine in any way what kind of gas it was?

A. I did not investigate the gas to determine the character of the gas. It was no surprise to me that gas should come from the wells.

Q. Why not?

A. I did not have any opportunity of getting any of the gas or analyzing it.

Q. You say it was no surprise to you. What do you mean by that?

A. Gas in the comparatively limited quantities that these wells were making might be found anywhere in these formations either in the Tulare or in the Etchegoin or in the Santa Margarita.

Q. Due to what?

A. Due to the fact that these formations are all more or less organic in character and that the organic material contained in these beds might give rise to accumulations of gas.

Q. Would that be petroleum gas?

A. Not necessarily. The same organic material—

Mr. Mills—I object to this statement as a volunteer statement not responsive to the question. The question has been answered.

Mr. Lewers—The question has not yet been answered. You may complete your answer.

Mr. Mills—Read the question and see whether it has or not. (The reporter reads the question and answer.) That does not call for a dissertation.

Q. By Mr. Lewers—Complete your answer.

A. I was simply making an explanation as to why I said, [1984] “Not necessarily.” The same organic material from which petroleum might be derived under some circumstances might furnish only gas. Under some conditions only gas is derived from these organic materials.

Q. When you were in there in 1903 and 1904 in the vicinity of McKittrick, did you have any knowledge of gas being discovered in any of those wells?

A. In which wells?

Q. Anywhere in that country.

A. In the oil-wells?

Q. Anywhere in that country. Yes.

A. Oh, yes. All of the oil-wells do make gas.

Q. Was that gas considered in 1903 and '04 as something that was to be desired, or what was it?

Mr. Mills—Considered by whom?

Mr. Lewers—Anybody.

Mr. Mills—It is rather vague and indefinite. Let us know whom you mean.

M. Lewers—Well, oil men, then, if you want to know, or geologists.

A. If you wish to know in what way I considered this gas important or unimportant, I will have to say that it depends on circumstances and the conditions under which it is found. To illustrate, I will state that the gas that came from many of the oil-wells was used locally as fuel on the leases from which the gas came. There were other circumstances in which the

gas was considered decidedly objectionable and as a matter presenting some difficulty to be overcome, and it was a serious obstacle to further drilling. For instance, there was a well drilled on the Buena Vista Hills north of McKittrick—

Q. Buena Vista Hills?

A. Did I say the Buena Vista Hills? [1985]

Q. Yes.

A. The McKittrick Hills north of the town of McKittrick on Section 16—The Fearless well—in which there was a violent outburst of gas that partly destroyed the derrick and threw out sand with such violence as to seriously damage the machinery and the drilling lines and other apparatus, and threw out boulders, and finally filled the well up with sand and choked off the flow. And the well never was recovered. The well was abandoned. This gas was not considered in a favorable light but decidedly unfavorable.

Q. Now, at the time you went in there in 1911 into the Elk Hills, did you see what has been referred to here sometimes as a gas blow-out and sometimes as and oil seepage, in Section 32 of Township 30-24?

A. I didn't see this in 1911.

Q. When did you see it?

A. When did I see this spot that was called the gas blow-out?

Q. Yes.

A. In Section 32?

Q. Of 30-24.

A. I saw that first in November, 1912.

Q. What is that, in your opinion?

A. A gas seepage.

Q. Describe further. What kind of a gas seepage?

A. It is a gas seepage or, perhaps, more than one gas seepage in the slope of the hill and from the sides of the canyon at this point in Section 32. The outcrop as I saw it consisted of brownish stain or a series of brownish stains on the slope of the hill, and by digging into it we found some sand stained brown, containing crystals of sulphur. It had a peculiar fetid odor. The material was dug out with a hand-pick [1986] and it was warm and showed more than the atmospheric temperature and showed a little moisture. These spots were not extensive. They seem to be all distributed on one level or approximately along one level, and represented the outcrop of a dissected stratum that lay horizontally across the canyon—that had been dissected by the canyon.

Q. Did you reach any conclusion as to the character of that deposit and of the gas?

A. Yes.

Q. What was that conclusion?

A. This deposit was one of many that I have seen of the same kind. It was representative of a class of deposits or class of outcrops that I have seen about the McKittrick and Sunset and Buena Vista Hills and Lost Hills. The gas is hydrocarbon gas and partly sulphuretted hydrogen gas.

Q. Is it petroleum gas?

A. Not necessarily. I don't believe that the gas issuing from the ground in any of these places is derived from petroleum, but from the organic shales that crop out. I don't believe it has any direct connection, or, in fact, any connection whatever with the occurrence of petroleum anywhere. My interpretation is that the gas is derived from the shales and from the strata that crop out on the surface and belong to that level.

Q. What kind of gas would you call it?

A. There is largely, I think, methane gas.

Q. What is the common name of that?

A. Marsh gas.

Q. How do you account for the sulphur?

A. The sulphur found in the sand in these outcrops is from the sulphuretted hydrogen gas.

Q. What is the origin of that, if you know?

A. That is derived from hydrocarbon gas, and it might [1987] come from marsh gas or methane. If you want me to state what the accepted view is as to its origin—is that what you are after?

Q. Yes. What conclusion or determination did you reach as to its origin. I wish you to explain fully.

A. The accepted view of the origin of this sulphuretted hydrogen gas is that marsh gas or any hydrocarbon gas, when it comes in contact with sulphates in the formations—any kind of sulphates, soluble or insoluble (even gysum, which is a calcium sulphate and insoluble)—when the hydrocarbon gas comes in contact with the sulphate there is a reaction

takes place in which there is a development of sulphuretted hydrogen. Without stopping to explain all of the chemical process, which would be complicated, that is the essential fact as far as this question is concerned: That there is evolved under these circumstances a sulphuretted hydrogen gas that follows along with the hydrocarbon gas or marsh gas wherever it might progress.

Mr. Mills—I want to move to have the entire answer to the last question stricken as a useless reiteration of the witness's answer to the first question, and that there is nothing new added, and it is useless matter.

Q. You spoke of this deposit, when being dug into, as showing a higher temperature than the atmospheric temperature. How do you account for that?

A. The increased temperature is accounted for by the chemical reaction that takes place in the exposure, or immediately below the surface, resulting from the decomposition of the sulphuretic hydrogen gas, commonly known as  $H^2 S$  gas.

Q. Did you make any test of that to determine whether it contained petroleum or indicated petroleum, in any way?

A. Yes; I made a test of the sandy material that I collected at this Point of Section 32. [1988]

Q. And what test did you make?

A. I tested it with chloroform and with benzine and with other reagents.

Q. And what results did you get?

A. The benzine and chloroform showed no results whatever, that is to say, they showed no evidences of the sand containing any asphaltum at all. The other solvent was a solvent the composition of which I don't know because it was a secret reagent, that is to say, it was something proprietary or secret—not proprietary, but a secret test, and I don't know; I don't even now know the name of the solvent. These experiments were tried in the office of Dr. Stark, of the Standard Oil Company, and this was a solvent that he had furnished and told me the name of, which I don't now recall. He told me something—

Mr. Mills—Now, I will have to object to this hearsay testimony. I don't see why you insist on putting that sort of testimony in.

Q. By Mr. Lewers—Never mind what he told you about it, But what result did it show?

A. It showed a dark stain in the solution. Now, I was unable to say what this dark stain indicated. The other solvents hadn't shown any such stain, and I can only state What interpretation Dr. Stark gave it.

Q. Well, that, of course, will have to be given by him. And what is the chloroform test and the benzine test usually used for—to determine what fact?

A. To determine if there is asphaltum in the substance which you test, or petroleum residue of any kind.

Q. And as the result of the use of those tests, what conclusion did you reach as to the petroleum character of that deposit?

Mr. Mills—I shall object to that question and answer, [1989] excepting as limited to the use of reagents which are known to the witness.

Mr. Lewers—I am perfectly willing to limit it to the use of reagents that were known to you.

A. My conclusions were that the tests were entirely negative; that is to say, it showed no evidence of this material containing any bituminous matter whatever.

Q. Are those deposits there oil seepages?

A. They are not.

Q. Are they asphaltum deposits?

A. They are not.

A. Are they petroleum gas blow-outs?

A. I can't say that they are, and I do not believe that they are.

A. Now, in your testimony yesterday, you spoke of having seen large deposits of what you and Mr. Owen concluded were asphaltum, in the Buena Vista Hills. Were they different from this particular deposit you have been describing?

A. Different chiefly in quantity and magnitude of outcrop.

Q. Well, are they asphaltum deposits?

A. I think they are not.

Q. Well, when did you reach that conclusion?

A. I reached that conclusion as early as 1910. I will state further that when I first saw these deposits in 1903 I took them to be asphalt deposits, and so stated, and I believed them to be asphalt deposits, and at the time of my visit there in 1908 I still believed

they were asphalt deposits, although I was unable to find any positive proof that they were deposits of asphaltum.

Mr. Mills—What section was this on that you are referring to now?

Mr. Lewers—In the Buena Vista Hills. [1990]

Mr. Mills—There are two sections he referred to.

Q. By Mr. Lewers—What sections are you referring to now?

A. Well, Sections 11 and 15.

Mr. Mills—You spoke of Section 10 in your direct testimony.

Mr. Lewers—11, I think it was. Wells in 10.

A. The well that was drilled there was in 10, but these asphaltum, or so-called asphaltum, deposits I think are not on 10.

Q. You may complete your answer.

A. The fact that I was unable to find any positive proof of these deposits containing asphaltum aroused my suspicions, and I have thought often and seriously about the fact that while superficially they resembled asphaltic residues; there was no asphaltum that could positively be found in the material. I never was able to detect any by the use of such reagents as benzine and chloroform.

Mr. Mills—Now, let us have the question again, I don't know whether this is responsive to the question or not.

Mr. Lewers—I think it is.

Mr. Mills—If it is, I will not object. Just read it to me, please.

Q. By Mr. Lewers—To save time: What further investigation did you make in that connection.

A. In 1910 I visited this locality in company with Robert Moran, and we stayed all night at the camp of the Honolulu Oil Company on Section 10. We came in from Maricopa in the afternoon.

Mr. Mills—Now, I object to all this long preliminary.

The Witness—It will not be long.

Mr. Mills—The question is, What further investigation did you make? Not what hotel you put up at. I think the record is unnecessarily long.

Mr. Lewers—A good part of the length is due to the remarks of counsel. [1991]

A. (Continuing) I showed these deposits to Robert Moran, and in answer to his—

Q. Well, don't tell any conversation between you. That would be hearsay.

A. All right. I don't care to prolong this discussion at all, only to add some substantial details that I feel are important. I have not finished my statement. In company with Mr. Moran I made an experiment there on the ground to prove to him that there were seepages of gas at this point.

Q. By Mr. Mills—Which proved to him, you say?

Mr. Lewers—"To prove to him."

A. To prove to him that there were positive seepages of gas at these outcrops.

Q. Briefly, what was that experiment?

A. We went down to these outcrops after dark with a crowbar and drove the crowbar down in to the ground at a number of different points in the immediate vicinity of these out-crops; and, although we drove the crowbar down to the depth of only two feet in any case, when we would pull the crowbar out and leave an open hole we could touch a match to the point and get a gas flame that blazed continuously for some minutes until the wind blew it out—blazed up to the height of a foot or more. The flow of gas continued indefinitely. I don't know how long the flow would continue, but there was a little breeze blowing and the wind blew the flame out.

Q. Have you ever seen marsh-gas burn in that way?

A. Yes.

Mr. Mills—That is objected to as immaterial; and I move that the answer be stricken out. A great many gases will burn that way, possibly.

Mr. Lewers—Some kinds won't.

Mr. Mills—Petroleum gas will burn that way.

[1992]

Q. By Mr. Lewers—In your opinion, did those deposits on the Buena Vista Hills have any connection with the petroleum deposits that have been found there?

A. I am convinced that these deposits of so-called asphaltum of the Buena Vista Hills are not deposits of asphaltum and have no connection with petroleum.

Q. Mr. Anderson, have you made any examination of the logs of the various wells in the Elk Hills that were introduced in evidence here day before yesterday?

A. Yes; I have examined them thoroughly.

Q. Now, what do those logs show to you, as a geologist, concerning the character of the formation in the Elk Hills, as to shale, mud, sand and whatever may be indicated?

Mr. Mills—Now, I want to interpose this objection—that these logs have not been properly introduced into evidence in this case for general purposes. It is barely possible that they might be received by the court as testing the accuracy of the Exhibit No. 16, introduced by the defendants, but not for any general purpose. The matter is all hearsay, as testified to by the witness Luke, and even in respect of following the hearsay testimony the map introduced does not conform to the hearsay. And I shall object to any reference being made to these logs, or alleged copies of logs, for any general purpose in the case. I shall not object to their reception for the purpose of testing the accuracy of the map on which it is alleged to be based, but any reference to these logs for general purposes in the case certainly is incompetent, irrelevant, and highly improper, as no proper foundation has been laid for their introduction.

Mr. Lewers—I will consent that that objection be considered as made, without repetition, to all questions of a similar kind, based upon those logs?

A. The logs indicate and show pretty conclusively that [1993] the formations passed through are very largely of the character of muds and clays, and sometimes a little shale, and occasionally thin streaks of sand. It is about the condition that I had anticipated in the formation—that they were largely if not entirely of the character of mud and clays, containing sparing amounts of organic matter.

Q. Now, in a number of those logs reference is made to showings of gas, gas sands, and so forth. What does that indicate to you as a geologist, assuming that those statements are correct as they appear in the logs as introduced in evidence?

Mr. Mills—Well, I want to object, further, to the designation of these papers as logs. They are not testified to as logs, but copies—alleged copies—of original logs furnished by the Associated Oil Company, and cannot in any sense be described as “logs” in this case.

A. These occurrences of gas indicate to me that the muds and clays and the formations composed of them were to some extent organic, and that there were little deposits of gas involved in these strata that were derived from the immediate vicinity of the well and from the levels and horizons in which the gas was found.

Q. Well, in your opinion, does that gas have any connection with deposits of petroleum lying deeper down?

A. Not necessarily at all.

Q. Why not?

A. For the reason that the organic materials in these strata might as readily evolve only gas as petroleum. It does not necessarily follow that because there is gas in the formations there is petroleum there at all. Gas is far more widely distributed in these formations than petroleum is; and for the reason that the organic contents of the strata may as readily evolve only gas and not petroleum. [1994]

Q. Do you know what the price of oil was in 1903 and '04 in the vicinity of McKittrick, Mr. Anderson?

A. I have a general recollection of the price of oil during those years; yes.

Q. What was it?

A. Why, it was from fifteen to twenty-five cents a barrel, for fuel oil.

Q. Now, taking Exhibit No. 16 as the basis for the question, and assuming that there are within what may properly be termed the limits of the Elk Hills, forty wells, varying in depth from 500 feet to 4850 feet, and that these wells were sunk partly by one company and partly by others, have you, as a result of your experience and observation in connection with the oil fields, been able to compile any data as to the cost, average cost, of sinking wells of various depths, Mr. Anderson?

A. Yes.

Q. From what data or experience have you compiled this information as to the cost of sinking wells?

Mr. Mills—I object to this question for its immateriality, because it has no bearing at all upon the issue as to whether the Southern Pacific Railroad

Company selected and obtained patents for the lands in this suit by fraudulent misrepresentation as to their character. The question is further objected to on the ground that it erroneously states the contents of the exhibit. The exhibit shows that the number of wells at that depth is thirty-one instead of forty.

Q. By Mr. Lewers—The concrete question that I desired to get at now, Mr. Anderson, is whether you have compiled data showing the cost of wells, and what is the basis of that data.

A. I have compiled some data. And the basis of the data that I have compiled is partly my acquaintance with the costs of drilling in the valley fields in general and partly from my [1995] intimate acquaintance with these costs as shown in the auditor's accounts—auditor of the Kern Trading and Oil Company and of the Associated Oil Company and of other companies.

Q. By Mr. Mills—Let me ask you the question, Have you ascertained from the owners of these wells as to which you are called upon to testify now, the actual cost, in each instance, of every well in the Elk Hills?

A. No.

Mr. Mills—Then I have a further objection, that the data is incomplete and speculative, and not based on any facts.

A. The statement that I wish to make now—

Mr. Mills—Well, I object to these volunteer statements of the witness that he continually throws into this record.

Mr. Lewers—His answer is perfectly responsive. You may have forgotten that you interrupted in the middle of his answer.

Mr. Mills—Well, I interrupted for the purpose of introducing what I regard as a valid objection.

Mr. Lewers—I know.

Mr. Mills—You are calling now for a speculation on the part of the witness, based upon no ascertainable facts at all.

Mr. Lewers—I am not.

Mr. Mills—And, moreover, it would be hearsay even if he got it from the auditor of the Kern Trading and Oil Company or the Associated Oil Company. There has been no opportunity offered us to cross-examine the auditor of these two companies, or the persons who sunk those wells, as to the actual cost, and what is overhead expense and what is actual drilling expense. It is tantamount to trying this case by affidavits.

Mr. Lewers—You are unnecessarily alarmed. That is not what we are after at all.

Mr. Mills—I am not alarmed at all. The only thing is [1996] that I am objecting to this because I don't regard it as material, and as encumbering the record. But, even if material, the proper foundation is not laid. You bring a man in here as a witness and ask him to furnish data, in the form of a summary, which he has gathered up running around different offices—of the Kern Trading and Oil Company and other offices.

Q. By Mr. Lewers—Now, what is the average

cost, as you have determined it, of sinking wells of varying depths in the valley oil fields?

Mr. Mills—That is objected to, on the ground that the witness has not been qualified to answer the question, and, if answered, the answer would be purely hearsay or speculative.

A. The average cost of drilling wells in the valley fields may be stated about thus: Wells less than 1200 feet in depth usually cost about \$10 a foot. Wells from 1200 to 2000 feet in depth usually cost about \$12 a foot. Wells from 2000 feet in depth to 2500 feet in depth cost \$13 a foot.

Q. By Mr. Mills—What are you reading from, Mr. Anderson?

A. Please let me finish this. It is only a little.

Mr. Mills—Let it appear in the record that the witness is reading from some voluminous typewritten sheet, which is not explained.

Q. By Mr. Lewers—Is that a memorandum prepared by yourself, Mr. Anderson.

A. This is a memorandum, prepared by myself, of facts that I have ascertained in the course of my experience.

Mr. Wells—Well, I shall object, further, that the witness is now testifying from some documents in his hand, which have not been submitted to me for examination.

Q. By Mr. Lewers—You may proceed.

A. Wells varying from 2500 to 3000 feet in depth cost \$14 a foot. Wells from 3000 feet to 3800 feet in depth cost \$15 a [1997] foot.

Q. Now, in that connection, Mr. Anderson, when you take that last item of \$15. a foot, do you mean \$15 from 3000 to 3800, or \$15 for each and every foot of the total depth?

A. I mean \$15 a foot for every foot of well. The cost per foot increases rapidly with the depth of the well.

Q. Now, do you know a well known as well No. 11, at Coalinga, a well belonging to the Kern Trading and Oil Company, 2700 feet deep?

A. There is a well No. 11 on Section 35, Township 19-15, at Coalinga, that is 2700 feet deep.

Q. Do you know the cost of that well?

Mr. Mills—Now, that is objected to, specifically, in addition to the other objections already made, unless the witness gives the cost of each well in the Coalinga field.

Q. By Mr. Lewers—You may answer. Do you know the cost of that well?

A. Yes.

Q. What is it?

A. It cost \$39,802.77.

Q. And how much is that per foot?

A. By calculation, that is \$14.73 per foot.

Q. Now, do you know another well there known as well No. 13, in the same township?

Mr. Mills—The same objection, that the witness is compiling—offering evidence of data compiled from two or three instances, without giving the cost of every well in the district, and for the further reason that he does not give the basis of his information

so that we may ascertain whether it is accurate or not.

Q. By Mr. Lewers—You may answer.

A. Well No. 13, on Section 35, Township 19-15, Coalinga [1998] district, owned by the Kern Trading and Oil Company.                      feet deep, and cost an aggregate of \$47,794, making an average cost, per foot, of \$17.02.

Q. Why did you select those two wells as examples?

A. I selected these two wells because they are representative wells in this district and fairly represent the cost of drilling in this district and in no way are exceptional in their costs, having had no serious accidents and no superfluous expenditures on account of accidents.

Mr. Mills—Now, let me interrupt long enough to ask a couple of questions, Mr. Lewers:

Q. Did you drill these wells yourself that you just testified about?

A. I did not.

Q. Did you pay out the money yourself?

A. I did not.

Q. Do you know, of your own knowledge, without what you have heard from hearsay, what the cost of these wells was?

A. I asked for—

Q. Now, I just asked you a question: Do you know it of your own knowledge, without getting it from some statement of some one else?

A. No.

Mr. Mills—Then I move that all the testimony in regard to those wells be stricken out; and for the further reason that it appears by the testimony of the witness that they are located many miles distant from the lands in this suit, where the conditions are not shown to be analogous in any way so that any comparison could be made.

Q. By Mr. Lewers—Now, Mr. Anderson, do you know what the going schedule of prices for oil in 1912 and 1913 is?

A. Yes. [1999]

Q. What companies are buyers of oil in the California fields at the present time, to your knowledge?

Mr. Mills—That is objected to as wholly immaterial.

A. The Standard Oil Company, the Associated Oil Company, and the General Petroleum Company, and others?

Q. By Mr. Lewers—Have you collected data as to the prices now prevailing in the oil market in California for oil of different gravities?

A. Yes.

Q. Have you prepared, Mr. Anderson, any summary or table containing the information as to the cost of drilling wells of varying depths that you have just given and also a schedule of prices that are prevailing now for differing degrees of gravity of oil, together with a statement of the price that prevailed in 1904, for oil?

A. Yes.

Q. Will you produce that statement?

A. Yes. (Produced)

Q. Is that the original of the statement you refer to?

A. Yes.

Mr. Lewers—We offer this in evidence, as illustrative of the testimony of the witness.

Mr. Mills—Do you mean to say that you offer here in evidence, without showing how this data was collected, the sources of information so that we may be able to test the accuracy of it, a summary made by this witness, without any further qualification?

Mr. Lewers—The offer has been made.

Mr. Mills—Well, it is objected to, on the ground that it has not been shown that this witness has any definite information on the subject, and it does not give the sources of his information, and for the further reason that the matter is wholly [2000] irrelevant and immaterial to any of the issues in the case. This is a similar offer to your offer of the alleged copies of these alleged logs of wells, to escape the necessity of putting on the stand officers of the Associated Oil Company—for fear of cross-examination, in my opinion.

The statement last referred to and offered in evidence is marked "Defendants' Exhibit 21—L.L.", and is as follows:

Developments and Appearances in Elk Hills.

Number of wells drilled in Elk Hills.....40

Depth of drilling .....500-4850 feet

Cost of drilling in Elk Hills:

## Average cost of wells:

Under 1200'	\$10.00	per ft.
1200-2000	12.00	"
2000-2500	13.00	"
2500-3000	14.00	"
3000-3800	15.00	"

## K. T. &amp; O. Co.

No. 11. 35-A Coalinga (2700'  
\$14.73 per ft. (\$39,802.77

No. 13. Coalinga 35-A (2808'  
\$17.02 per ft. (\$47,794

## Schedule of oil prices at present (1912-1913)

<i>A. O. Co. prices</i>	<i>Standard Oil Co.</i>
12° - 18° 30c	21° - 25° 50c
18° - 22° 35c	25° - 30° 65c
22° - 25° 45c	30° - 35° 80c
25° - 35° 50c	

Prices of fuel oil in 1904 ranged from 25c per

Barrel to 15 cents per barrel. [2001]

Q. By Mr. Lewers—Mr. Anderson, have you ever made any calculation, based upon your experience and observation of the operation of producing oil-wells, as to the percentage or rate of decline in production of the average California oil-wells?

A. Yes.

Q. How did you arrive at that?

A. While I was in the geological department of the Southern Pacific Company one of my duties was to gather statistics of production and to compile tables

and curves representing data of production, including the rate of decline in the production of producing wells through given periods of time; also, in my work in connection with the Crocker Oil companies, I have compiled similar data, showing the rate of decline in the production of producing wells over given periods of time.

Q. Were you able to reach, from this data, any general conclusions that would be applicable to the average wells?

A. Yes.

Q. And do you know whether or not any similar work has been carried on by others?

A. I do.

Q. By whom?

A. Similar work has been carried on by the Associated Oil Company and by various superintendents and managers. Mr. Markriqua—

Mr. Mills—I object to that statement of the witness, as immaterial. I ask that the objection of immateriality be extended to all of this testimony.

Mr. Lewers—I will consent to that—without repetition.

Q. Now, Mr. Markriqua is connected with what company?

A. The Nevada Petroleum Company, Coalinga.

Q. Now, has anything he has been doing been along the same lines as your work? [2002]

A. Yes.

Q. Well, in doing that work with what is he connected, is what I want to get at.

A. He is connected with the Nevada Petroleum Company.

Q. But under the auspices of what organization?

A. Oh. I think he has some connection with the Commerce—

Q. Commonwealth?

A. Commonwealth Club, of San Francisco.

Q. And have you checked your work in any way with other work that is being done by others along the same line?

A. Yes.

Q. Now, have you prepared a table giving the results of your own investigations in this matter?

A. Yes.

Q. Is this paper which I show you the table which you refer to (handing paper to the witness)?

A. It is.

Mr. Lewers—We offer this in evidence, as illustrative of the witness's testimony.

Mr. Mills—Besides the objections for utter immateriality to this offer, it is further objectionable for the reason that it takes no account whatever of the thickness of oil-sands of different wells, nor of the fact that wells which have been known to have been brought in twenty or thirty years ago are still running without any decline, or of so-called "gushers" or spouting wells, and also that it takes no account of the different porosities of sands where the wells in the

California oil fields are located, and is, on its face, wholly untrustworthy as an exhibit for the purpose for which it is offered.

The table last referred to and offered in evidence is marked "Defendants' Exhibit 22—L. L.", and is as follows: [2003]

Rate of Decline in Production of California Oil Wells.

Loss	Percent- Percent.		Average of Init. Prod.
	age of In- itial Prod.	of Init. Prod.	
	lost	Remain.	
1st year	33 $\frac{1}{3}$ % . . . . .	33 $\frac{1}{3}$ %	67%
2nd year	25% . . . . .	16 $\frac{2}{3}$ %	50%
3rd year	20% . . . . .	10%	40%
4th year	15% . . . . .	6%	34%
5th year	10% . . . . .	3.4%	31.6%
		69.4%	51.36%

After the first five years of production the rate of production is only 33% of the initial rate, and the average rate of production for this entire period is only 51.36% of the initial rate.

Q. By Mr. Lewers—Mr. Anderson, what sort of wells were taken into account in reaching these conclusions shown in this table?

A. Representative producing wells in California, and such wells as are found in the Kern River oil-field, and the McKittrick oil field; representative wells of these fields and other fields in the state. The table is designed to be representative of the average well in California.

Q. By Mr. Mills—May I ask whether you included the Lake View gusher, which has been testified to have brought in 10,000,000 barrels in a year?

A. Yes.

Q. In your table? [2004]

A. Yes.

Q. You put that in, did you?

A. Yes.

Mr. Lewers—And which has bankrupted the people who owned it.

The Witness—I would like to state— Well, it might not be considered responsive.

Mr. Mills—Well, you would like to state a great many things so far as that goes. Some of them material and some are not.

The Witness—May I ask a question without it being included in the record?

Mr. Lewers—Why, certainly.

The Witness—Well, it is in regard to the Lake View gusher.

Mr. Mills—Oh, well, let us not take up the time of the court.

Q. By Mr. Lewers—You have brought in that matter. What do you know about the Lake View gusher that Mr. Mills had referred to, which in any way would affect your table?

Mr. Mills—Let the record show the entire conversation. Mr. Examiner—show that this is a volunteer statement.

A. The rate of decline in the Lake View gusher

was very much greater than this table shows the average rate to be; probably three or four times the rate of decline.

Q. By Mr. Lewers—Well, is not that true, Mr. Anderson, of gushers in general?

A. It is.

Q. By Mr. Mills—Necessarily throws the average away down in your table?

A. No sir; it wouldn't.

Q. It wouldn't? Although the decline is greater it [2005] wouldn't affect the average?

A. It would greatly increase the rate of decline.

Mr. Mills—I say that. That is exactly what I say.

Q. By Mr. Lewers—Now, Mr. Anderson, assuming, for the purpose of the question, that you have a well, in the California oil fields—an average well—1800 feet deep, that has cost \$20,000 to drill, and that that well is producing 150 barrels per day of 24 gravity oil. Have you been able, from your experience in connection with the sinking and operating of wells and your observations in the California oil fields, to reach any conclusions and to compile any data showing the cost of operating that well?

A. Yes.

Q. Assuming that it is not an unusual or unduly expensive well?

A. Yes.

Q. Where did you obtain that data?

A. This data was obtained partly from my general information as to the costs of operation, and the

details of the costs of operation, drawn from the records of auditors of companies operating.

Q. Was it based upon actual expenditures, so far as you were able to ascertain, in the oil fields?

A. Yes.

Q. Now, have you prepared a table showing these costs?

A. I have.

Q. Is this paper which I show you the table which you refer to?

A. Yes.

Mr. Lewers—Now, before questioning Mr. Anderson upon the details of that table, I offer it in evidence as illustrative of the testimony to be given in connection therewith. [2006]

Mr. Mills—Well, I suppose it is appropriate for me to examine this witness somewhat as to what he used in arriving at his table.

Mr. Lewers—Well, I was going to do the same thing.

Mr. Mills—I think that, ordinarily, would be done before you would make an offer.

Q. How many wells did you consider in making up this table which constitutes the offer of counsel?

A. Is this cross-examination?

Mr. Lewers—Yes, on the offer of introduction.

A. It is quite impossible for me to say how many wells I examined; but a very large number. It is the result of a long series of information.

Q. By Mr. Mills—What wells did you consider in making this statement?

A. This statement is representative of the average cost of operation.

Q. That is not the question. The question is, What wells did you consider in making the table?

A. About all the wells of which I had any records available.

Q. Does this table include pumping wells, or flowing wells, or both?

A. It includes pumping wells and flowing wells.

Q. And how many wells did you consider in making this table.

A. Well, I should say some thousands of wells.

Q. How many thousands?

A. Well, two or more.

Q. Two thousand?

A. Or more.

Q. Well, how many more? Three thousand?  
[2007]

A. I would not undertake to say further than that. I consider the statement representative of the average cost of wells in California.

Q. Well, I am not asking you that, Mr. Anderson. That is a matter your own counsel can bring out. Where did you get the information of these two thousand or more wells which you have used as a basis for this paper?

A. As I said before, my work in connection with the geological department of the Southern Pacific gave me such information. I interchanged information with the Oil Producers Agency, for one thing,

with the Associated Oil Company for another, and the Kern Trading and Oil Company, and others.

Q. This is not made up from your own personal knowledge, but from hearsay, entirely, isn't it?

A. It is from information furnished—official information furnished me.

Q. Hearsay information?

A. Official information furnished me.

Q. Well, did you include no other wells except the Southern Pacific Company wells, the Kern Trading and Oil Company wells, and the Associated Wells?

Mr. Lewers—He has already answered, a number of others.

A. I have already answered there were many others.

Q. By Mr. Mills—But it was all based on hearsay, was it not?

A. Official information.

Q. Well, was it based on hearsay?

A. It was based on official information.

Q. Will you answer my question Yes or No? Was it based on hearsay?

Mr. Lewers—Why, he has answered it.

A. That is a question for your interpretation.  
[2008]

Q. By Mr. Mills—You refuse and decline to answer whether this was based on hearsay evidence or not? Is that what you mean?

A. I don't know what you mean by "hearsay".

Q. You don't know what I mean by "hearsay"?

I mean, did you get this from your own personal knowledge or from something that some one told you? Now, do you understand me?

A. I got this from information furnished by official sources.

Q. Did you get it from hearsay or from your own personal knowledge?

Mr. Lewers—I object to this constant repetition of the question, which has been answered. It is purely a legal quibble that you are after. The answer indicates that he didn't get it from his own knowledge but got it from information furnished by others which he regarded, as he states it, as official information. You will call that "hearsay"; somebody else might not.

Q. By Mr. Mills—I have explained to the witness what I meant by "hearsay", and I will ask him now whether he will state that it was obtained by hearsay on your personal information.

A. You may interpret that as you like, Mr. Mills.

Q. You refuse to answer? Is that it?

A. I think I have given you a sufficient answer to that question.

Q. And you declined to answer the question, then?

A. I do not.

Mr. Lewers—I object to this repetition. The question has been answered. It is merely an attempt, and I do not think exactly a fair attempt, to badger the witness.

Mr. Mills—I am not attempting to badger the wit-

ness, but I am showing the bias of the witness very clearly.

Q. You refuse to answer the question?

A. I do not refuse to answer the question. [2009]

Mr. Mills—We object to the offer, on the ground that the witness has refused to answer the question where he got his information, and the further objections assigned with reference to the other table.

The table last referred to and offered in evidence is marked "Defendants' Exhibit 23—L.L.", and is as follows:

Production costs for average wells.

1800' \$20,000. 150 bbls per day.

24° B.oil

Pumping .....	\$0.032	per bbl
Pulling and tubing .....	.0155	"
Cleaning, etc. ....	.0126	"
Maint. and Repairs.....	.10	"
Handling, etc. ....	.0224	"
Storage )		
Insurance ) .....	.045	"
Marketing)		
5% Interest (Average) .....	.0111	"

---

Net Cost .....\$0.2386 per barrel

24° Oil= \$0.50 per bbl (Standard Schedule)

Net cost= .2386 "

---

Net gain .2614 without amort. charge.

The price of fuel oil in 1904 was 24¢, 20¢ and even  
15¢ per barrel.

Q. By Mr. Lewers—Now, taking this table, which is now marked “Defendants’ Exhibit 23”, I notice you have charges here for pumping, pulling and tubing, cleaning, and so forth, maintenances and repairs, and then, “handling”. What do you mean by the expression “Handling”? What do you include in that? [2010]

A. That item would include such expenditures as those for cleaning the oil from water and settlement and pumping it to temporary tanks or reservoirs.

Q. Does it include the transportation away from the property?

A. No. And the gauging of the oil, and making proper mixtures to bring the gravity to the required point, and so forth, according to the contract with the purchasing company.

Q. Now, I notice you have a charge of “interest”. Interest upon what?

A. Interest upon the money invested in the drilling of the well, including labor and materials.

Q. Now, following that, after a summary as to the net cost per barrel, you have an item “Amortization”, five years, 7.4 cents. Will you explain what is meant by that item?

A. I mean by that the charge to be made against the well for the recovery of the money invested in labor and materials and the process of drilling.

Q. Would that be what is commonly termed in other lines of business a sinking-fund?

A. Well, there might be sinking-funds for more

purposes than one, perhaps; but this is a sinking-fund for the recovery of the investment.

Q. Well, why have you fixed a period of five years?

A. Because that is the time within the limits of which a well should properly pay for itself, return all the money invested, with interest.

Q. Well, why do you say that? What is your basis for it?

A. Well, that is the average life of the well in the commercial sense. If a well cannot pay for itself in five years, generally it is considered a failure, that is, it is not profitable. [2011]

Q. Do you know whether that basis of five years is used by anybody else in reaching this result?

A. It is generally used by conservative operators everywhere.

Whereupon the further taking of testimony herein was adjourned until 1:30 o'clock P. M., at the same place.

On Thursday, February 21, 1913, at 2 o'clock P.M., the further taking of testimony herein was resumed pursuant to the adjournment: Willis N. Mills, Special Assistant Attorney-General, appearing on behalf of the plaintiff; and Charles R. Lewers, Esq., appearing on behalf of the defendants.

FRANK M. ANDERSON,

recalled, DIRECT EXAMINATION resumed.

By Mr. Lewers:

Q. Mr. Anderson, have you prepared a table giv-

ing data similar to that contained in Exhibit No. 23 that we have just been referring to, with reference to a well of the same depth costing \$20,000, producing a hundred barrels a day of 24-gravity oil?

A. I have.

Q. Is this the paper which you referred to?

A. Yes.

Mr. Lewers—We offer this in evidence as Exhibit No. 24 of defendants.

Mr. Mills—Briefly, the objection is the same as to the other tables. There is no proper foundation, and for the other reasons assigned to the other exhibits.

The paper last referred to and offered in evidence is marked "Defendants' Exhibit No. 24—L.L.", and is as follows: [2012]

Production Costs for Average Wells

1800' depth; \$20,000; 100 bbls per day prod.

24° B Oil

Pumping .....	\$ 0.032
Pulling and Tubing.....	.0155
Cleaning, etc. ....	.0126
Maint. and Repairs.....	.10
Handling product .....	.03
Storage )	
Insurance ) .....	.045
Marketing)	
5% Interest (Average) .....	.0165

---

Net Cost .....\$0.2516 per bbl.

2506      *The Southern Pacific Co. et al. vs.*

Amortization in 5 years ..... .1111

Total Cost .....\$ 0.3627

24° B oil—\$0.50 per bbl (Standard)

Net cost .2516

---

\$0.2484 for amortization

The price of oil in 1904 was 25 cents, 20 cents,  
and 15 cents per bbl.

Q. By Mr. Lewers—Referring to the items of charge in there, such as the charge for pumping, did I understand you to say that that was figured as an average of all wells concerning which you have collected data?

A. It agrees with the data that I have and agrees with my calculations based on the wells of which I have information.

Q. Specifically, does that item of pumping include estimates made from wells that are pumped and gushers as well? That is what I want to get at.

A. Yes sir; it is the average cost of production, includ- [2013] ing—let me see if I get your question right.

Q. What I want to get at is, taking all this production cost, did you include gushers amongst the other in reaching your final estimate—and pumping wells?

A. There is a difficulty to be overcome here in this question. While that is a gusher at one interval or for a short time, it may very quickly become a

pumping well and it is hard to classify a well that way and to divide the wells into classes of gushing wells and pumping wells, except at a given moment. You see the difficulty, do you? This does include all of them, but I don't attempt in this answer to classify the wells into pumping wells and gushing wells as a permanent classification to the wells. The well might vary from one class to the other, but it includes the production of all wells and includes, therefore, gushing wells as well as pumping wells, because the gushing wells ultimately become pumping wells in nearly every case.

Q. How large a percentage of producing wells are gushers or remain so?

A. That is difficult to answer because there is no classification of wells that can be consistently followed through a term of years, dividing them into pumping wells and gushing wells. As I say, wells may be temporarily gushing wells. Now, if you take the proposition that at any one definite time the percentage of flowing wells or gushing wells is comparatively small—

Q. That is what I want to get at.

A. That is the case. The percentage of flowing or gushing wells is comparatively small.

Q. Now, Mr. Anderson, have you prepared a similar table—

Mr. Mills—Just a moment. You are passing now to another table?

Mr. Lewers—Yes sir. [2014]

Q. By Mr. Mills—Do I understand now from the

witness's statement that you do not include gushing wells as such in this table which has just been offered in evidence?

Mr. Lewers—I undertood him to say all wells?

Mr. Mills—All wells which are on a pumping basis at some time, although they might have been gushing? Is that what you mean?

A. It includes all wells; the production cost of average wells; it is based on calculations including all the wells concerning which I had any information.

Q. You threw some doubt on the subject of the statement as to the gushing wells.

A. Temporarily, until I undertood the full bearing of the question.

Q. Now, some territory in which there is considerable gas pressure and where the oil-sands are reached at a considerably greater than the average depth, is more likely to produce gushing wells than shallow territory, is it not? That is to say, in deep territory where there is heavy gas pressure you are more likely to find a gushing well than in shallow territory where there is not much gas pressure, in the California fields?

A. I think I understand you to mean that a well will gush when first brought in. Yes. That is to say, in deep territory the percentage of gushing wells is probably higher. That is, wells that do gush at some interval or at some time.

Q. And also gushers occur more generally in deeper territory than in shallow territory?

A. I attempted to say that the percentage of wells that gush for a period is greater in deep territory than in shallow territory. That answers your question.

Q. Your table is made up of all classes of territory—shallow and deep territory? [2015]

A. Yes sir.

Mr. Mills—I think it is further objectionable as applying to this case for the reason that the territory in dispute is known as a gassy, deep territory, and more likely to produce gushers than shallower territory.

A. I would like to state that the conditions of this particular table are set forth at the head; that this assumed well is 1800 feet in depth. Now, that is an average depth. It is assumed also that it cost \$20,000 and produces a hundred barrels a day when it settles down so as to be called a regular production. This table is compiled upon the basis of such assumption.

Q. Do you take into account in the preparation of this table flowing wells which are not gushers? I mean flowing wells that flow.

A. Which are not spouters?

Q. Yes. Such as the Lake View, for instance. That would be called a gusher. There are wells which merely flow.

A. The Lake View is considerably more than 1800 feet in depth.

Q. Yes; but I am not discriminating as to the depth, but merely as to whether the well is only a flowing well and brings the oil to the surface.

A. I don't know of any way of defining or discriminating between a gushing well and a flowing well.

Q. I mean a well which for any reason does not require pumping at any period of its existence.

A. I don't know of any such well.

Q. You know of wells, don't you, that have flowed for a period of years and are flowing today and have been from the time they were brought in, without having ever been put on the pump. [2016]

A. Well, I have known of a well to flow for a period of more than one year.

Q. Don't you know of wells that flowed for a period of several years?

A. No; not in this state.

Q. In Coalinga?

A. No; I don't recall any instances of such wells.

Q. Is the data on which you prepared this table based on wells of only 1800-foot depth?

A. Of 1800 and approximately that depth. That is, 1800 feet was assumed as an average depth of the wells of California.

Q. When you say "average", you might get an average of 1800 by taking a well a thousand feet in depth and one which is 2600 feet in depth?

A. Yes; or I might take a well 600 feet in depth and one 3000 feet in depth.

Q. Is that the way you prepared that table—on data of that kind?

A. This is a well of average depth.

Q. That is, including the deepest wells and the shallowest wells—taking an average of the two extremes?

A. Yes sir. That is to say, I consider 1800 feet an average depth.

Q. I understand that. But I am getting at how you arrive at that average. You take the maximum and the least depth of all the wells that you examined and strike an average of 1800 feet?

A. That might amount to the same thing. The figure is taken by averaging the depth of the wells with which I am acquainted.

Q. No matter what they are, so long as the general average would be 1800 feet?

A. Yes. [2017]

Mr. Mills—I object to it again for the reason that it does not show what it purports to show. That is to say, what it is intended to show, viz: The data which has been collected from wells of 1800-foot depth.

Q. By Mr. Lewers—Now, Mr. Anderson, have you prepared a table showing similar data and estimates of a well 3600 feet deep, assumed to cost \$60,000, and to produce a hundred barrels a day of 24-gravity oil?

A. I have.

Q. Is this the estimate that you refer to that I now show you?

A. Yes sir.

Mr. Lewers—We offer this in evidence.

Q. By Mr. Mills—Was this depth an average

depth struck by you from examination of wells of greater depth and those of lessor depth than that?

A. This is what it purports to be: The cost of wells of this given depth—the cost of production. It is the cost of average wells of this depth.

Q. That is, of this precise depth?

A. Approximately this depth. I won't say exactly 3600 feet, but that and the near neighborhood.

Q. Did you include wells in excess of 4000 feet?

A. No.

Q. Or wells of 3000 feet?

A. No.

Q. What wells did you take for the accumulation of this data?

A. I took the figures 3600 feet and used that to represent wells of this particular class.

Q. But what specific wells did you have in mind when you made this statement? [2018]

A. I won't say that I had any specific wells in view.

Q. That would be true as to all the other tables that have been introduced?

A. I don't know that it would.

Q. All the other tables introduced so far?

A. Not all the other tables; no.

Q. What other tables have been introduced which differ from that?

A. There have been several other tables produced which are not of this character.

Q. You have them in your hand, so that you can refer to them.

Q. By Mr. Lewers—Are you referring to the ones already introduced?

A. Yes sir.

Q. By Mr. Mills—What tables are they in which you had in mind specific wells?

A. I don't think that I had in mind specific wells in any of these tables.

Q. I misunderstood you, then, Mr. Anderson. It is true, then, that as to all of the tables which have thus far been prepared and introduced during your testimony, that you had no specific wells in mind at the time you made these tables?

A. I think I will have to modify my answer, now that I see more clearly what you mean, as I think I do. I assume this figure 3600 feet to meet conditions represented in three wells on the Elk Hills. That is, well No. 1 on Section 26 and well No. 3 on 24, of Township 30-23, and well No. 1 of Section 30, Township 30-24. Now, I won't say that this figure meets the conditions of those wells exactly, but approximately.

Q. And as to this particular table which has just now been offered headed "Production cost for deep wells 3600 feet depth [2019] and so forth," you took an assumed well which met the conditions of those three wells that you have named in the Elk Hills, sunk by the Associated Oil Company?

A. Yes; except that those wells are all deeper than 3600 feet and cost more than \$60,000.

Q. That is, you don't mean to say you know what they cost, but you have heard that they cost more than that?

A. I have official information as to what they cost.

Q. What do you mean by "official information"?

A. Information obtained from the manager of the Associated Oil Company.

Q. That is, some official of the company?

A. Yes sir.

Q. Was it given to you for the purpose of making these tables?

A. I did not ask for it exactly for that purpose.

Q. Well, it was furnished you for that purpose?

A. I asked Mr. Henderson for a statement of facts, and he gave me the statement. However, the facts presented by Mr. Henderson's statement are not quoted in this sheet.

Q. Those three wells that you refer to as the basis of this offer, Mr. Anderson, have not been operated, to your knowledge?

A. Yes; they have been.

Q. Not further than to close them down after they spouted, have they?

A. Oh, yes; they were pumped. One of them was pumped for a year.

Q. What was the production of that well during that time?

Mr. Lewers—That is calling for hearsay testimony, Mr. Mills. If you want it, you may have it.

Q. By Mr. Mills—What is the production Mr. Henderson [2020] gave you?

A. Well No. 1, located on Section 26, 30-23, produced in September, 1911, 680 barrels; at the end of October—

Q. I don't care for the specific months.

A. —730 barrels—

Q. Just the summary.

Q. By Mr. Lewers—Give the summary.

A. And in the twelve months, including September, 1911, to August, 1912, it produced a total of 4074.15 barrels.

Q. By Mr. Mills—That is, the one on 26 of 30-23?

A. That is well No. 1 on Section 26.

Q. Was that well pumped or did it flow?

A. It was pumped.

Q. Was it pumped continuously during that year?

A. I couldn't say that it was pumped continuously.

Q. It was only pumped for a short interval?

A. I can't answer as to that.

Q. By Mr. Lewers—Give him Section 24 in Township 30.

Mr. Mills—I don't care for that.

Mr. Lewers—You called for all of them.

Mr. Mills—No; I did not. I asked whether those wells were operated, that is all. I will come to that when the proper time comes.

Mr. Lewers—I insist that the answer be completed. The question called for the information Mr. Henderson gave as to the production of those wells.

Mr. Mills—I asked for the information on Section 26 for specific reasons.

Mr. Lewers—I did not so understand it.

Mr. Mills—I certainly did. I have information that the data given Mr. Anderson by Mr. Henderson, as he claims, is entirely erroneous. [2021]

Mr. Lewers—I move that that be stricken from the record as a volunteer statement of counsel not based on any evidence and not under oath. I don't care what information you have. We all get information that is unreliable.

Mr. Mills—Well, we have this information under oath.

M. Lewers—I happen to know what you are referring to, and it doesn't say anything of the kind.

Mr. Mills—Let the same general objection extend to this table as was made to the other tables.

Mr. Lewers—That is agreed.

The table last referred to and offered in evidence is marked "Defendants' Exhibit No. 25—L. L.", and is as follows:

Production Costs for deep wells.

3600' depth; \$60,000, 100 barrels per day.

24°      B Oil

Pumping .....	\$0.032 per bbl
Pulling and Tubing .....	.031
Cleaning, etc .....	.0252
Maintain, and Repairs.....	.12
Handling product .....	.03

Storage	}	.....	.045
Insurance			
Marketing			
5% Interest (Average)		.....	.05

Net Cost.....	\$0.3332
Amortiz. in 5 years .....	.3333
	<hr/>
	\$0.6665

24° B oil=\$0.50 per bbl (Standard)  
 Net Cost .3332

Net Gain \$0.162/3 without amort.

36000 bbls per year at gain of 16 2/3 cents = \$6000 per year gain. Will require ten years to retire debt of \$60,000.

Fuel oil in 1904 was 25 cents, 20 cents and 15¢ per bbl. [2022]

Q. By Mr. Lewers—Now, Mr. Anderson, will you briefly explain what is meant by the figures in this Exhibit 25, on a well 3600 feet deep? That is, what deductions do you draw from those figures?

A. The net cost of production is 33-1/3 per barrel in wells of this character. That represents the average cost of production over the state of wells fulfilling this condition. This net cost of 33-1/3 cents per barrel does not include the charge for the retirement of the debt developed in process of drilling. The cost of that one item, figuring on the basis of amortization in five years, is 33-1/3 per barrel, making the aggregate cost per barrel 66-2/3 cents. Or, if we take

24 gravity oil worth 50 cents per barrel, which is the highest price now offered in the market, and deduct the net cost of  $33\frac{1}{3}$  cents, we have a net gain of  $16\frac{2}{3}$  cents per barrel without the charge for amortization. A well producing 100 barrels per day, if it does that continuously for 360 days in the year (which is unlikely) and the net gain per barrel is  $16\frac{2}{3}$  cents, there is a yearly net gain of \$6,000 which can be applied to the retirement of the debt. It will obviously then take to retire a debt of \$60,000 ten years of production, which far exceeds the average life of the wells of California. That is the time that would be required for the well to pay for itself.

Q. Has that made any allowance for the ordinary laws of depreciation in production, or is it assumed that the 100 barrels per day will continue right straight through?

A. It is assumed that the 100 barrels a day will continue throughout the period of five years.

Q. Hasn't the latter portion where you figure \$6,000 per year gain assumed that it will continue for ten years?

A. Yes sir.

Q. Is that a likely situation? ]2023[

A. It is not. The average rate of decline, as stated in the table, would bring the average production considerably below this. As is shown in the table that was presented, representing the average rate of decline, the average production of a well for a period of five years is a little over 51 per cent of the initial production.

Q. Then, in order to have the average of 100 barrels per day during a period of ten years, it would have to start with a very much heavier production?

A. A very much larger initial production.

Q. Now, directing your attention specifically to well No. 3 in the southwest quarter of Section 24, 30-23—the Associated Oil Company's well—and assuming that that well produced oil in the month of June, 1912, amounting to 2965 barrels of 20 gravity oil, have you prepared any table, taking that production for the month of June that I have assumed as the average production of that well?

Mr. Mills—I object to that question and its answer for the reason that it is an assumption of fact not yet in evidence and not in accordance with the facts as known to this well.

Mr. Lewers—In answer to that, I will say that the first part of your objection under the present condition of the record is admitted to be good. But I will introduce evidence establishing that fact, that the production for the month of June, 1912, was 2965 barrels.

Mr. Mills—Will you introduce evidence from the books of the Associated Oil Company?

Mr. Lewers—I certainly will. And if the books do not contain it I will get somebody who knows.

A. By your permission, I will take a slightly more liberal assumption than that. I will assume that this well No. 3 in the southwest quarter of Section 24, 30-23, produced 3,000 barrels [2024] in the month of June, to make the calculation a little easier. That

means 100 barrels per day for thirty days. Allowing the well to produce at that rate for 360 days of the year, and assuming that this oil is worth fifty cents per barrel, which by the schedule is too high an allowance, as shown before in the previous table it would require ten years to retire the debt—that is, the cost of sinking the well.

Q. What are you assuming to be the cost?

A. \$60,000.

Q. The same as your former well of 3600 feet?

A. Yes. This oil from well No. 3 on Section 24 was of 20 gravity, and by the schedule of prices it is worth 35 cents a barrel instead of 50 cents, while the net cost of production will be, as as calculated before, 33- $\frac{1}{2}$  cents a barrel. This will leave a net gain of 1- $\frac{2}{3}$  cents a barrel to be applied to the retirement of the debt. Now, I have not calculated the matter so as to determine the length of time it would require for the recovery of this investment, but obviously it will exceed twenty-five years.

Q. Now, making a further assumption that this well No. 3 in Section 24 was pumped four months; that the average production was 900 barrels per month or 10800 barrels per year. What effect would that have on your calculations?

Mr. Mills—Let the same objection apply to all these questions where the facts are assumed that are not in evidence.

Mr. Lewers—That is agreeable.

A. This production that you mention, 900 barrels per month, would be 10800 barrels per year. This is

a little less than one-third of the former assumption and, as it requires the same number of employees to operate the well, and the same machinery, it would probably increase the cost per barrel three times. Obviously it would very greatly increase the cost of production [2025] and operation and make the well or the operation of the well utterly impractical and unprofitable. It could only be pumped at a loss.

Q. Would you advise the sinking of another well in that vicinity with that showing?

Mr. Mills—Objected to on the ground that it is incompetent because there is no evidence at all that those conditions exist.

Q. By Mr. Lewers—Have you prepared a table showing the data that you have just given in evidence concerning well No. 3 of this Section 24?

A. Yes; I have.

Mr. Lewers—I offer this table in evidence as “Defendants’ Exhibit 26.”

Mr. Mills—I object further to the introduction of this table, not only because it assumes facts not in evidence, but because there is an attempt made on the face of this offer to testify to facts by hearsay evidence—as to the actual production of certain wells in the Elk Hills.

Q. By Mr. Lewers—Will you add the words before the second paragraph, “assuming that”?

Mr. Lewers—I renew the offer with the modification by the words “assuming that” which should have been there before.

Mr. Mills—Then I withdrew the last objection and allow the former objection to stand.

The table last referred to and offered in evidence is marked "Defendants' Exhibit No. 26—L. L.", and is as follows: [2026]

Assuming the largest production from any of the Elk Hills Wells was from Well No. 3 Sec. 24, 2965 bbls in June 1912—20° B. Oil.

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3600 bbls per year with oil at 50 cts. as shown before would require 10 years to retire debts.

This oil was only 20° B. or 35 cents oil.

Net Cost of production \$0.33 $\frac{1}{3}$

---

Net gain per bbl..... 0.01 $\frac{2}{3}$

---

Assuming that Well No. 3 pumped 4 months and the average production was

900 bbls per month  
= 10800 bbls per year.

This would be at greatly increased cost of production per bbl. and the average production would not remain as high as 900 bbls. per mo.

Q. By Mr. Lewers—Now, assuming, Mr. Anderson, that well No. 1 on Section 26, Township 30-23, produced oil of 36 degrees gravity and that twelve months' production from that well amounted in the aggregate to 4074.15 barrels, or a monthly average of 340 barrels. Have you prepared a table showing the amortization figures for that well with that assumption?

A. I have.

Mr. Lewers—I offer this table in evidence as Defendants' Exhibit 27. [2027]

Mr. Mills—We object to this offer for the reason that it assumes facts not now in evidence, in addition to the other objections to the former exhibits as to the immateriality and incompetency. For the further reason that it assumes that in all—and this objection goes to all the tables for the Elk Hills—that these wells had a steady production of a certain daily average, which is not proven and not in accordance with the facts.

Q. By Mr. Mills—Let me ask one general question: You don't know of your own knowledge, Mr. Anderson, as to any of the tables prepared for assumed conditions in the Elk Hills, in connection with the Associated wells to which you refer, just at what time the wells produced and at what times they were idle during a given year, do you?

Mr. Lewers—You mean does he know when the pumping was going on and when it was not?

Mr. Mills—Yes.

A. I do not.

Q. That is true of all of the wells?

A. Yes.

Q. In other words, that entire production may have come in in a very short interval or over a protracted period, for all you know?

A. I was unable to get—that is, I was not furnished—(I won't say I was unable to get)—but I was

not furnished with exact information as to the exact number of days the wells pumped each month.

Q. And if any one of the wells was closed down and not pumped for some reason not due to the fact that oil could not be taken from the well, these tables would have no application at all under the conditions that existed?

A. I won't say that. I won't admit that. I would like to say that this information as to the production was furnished [2028] me by both Mr. Henderson and Mr. King, who was the field superintendent of the Associated. I had some talk with Mr. King in regard to—

Q. I don't want to go into any of that, Mr. Anderson. My question is this:—

A. Of course, he can speak for himself.

Q. — If any one of these wells produced the entire quantity of oil which you have assumed for the year's production, in an interval of twenty days, and that well had been closed down for some reason not due to the fact that it was unproductive, your table would have no application?

A. Mr. Mills, your assumption states something that is not true, probably, and I wouldn't answer anything in regard to it.

Q. You yourself are indulging in assumption upon facts which you put on your table and which are not in evidence. Now, I say that assuming the entire production of any one of these wells had occupied an interval of less than thirty days, then you would say, would you not, that the tables would have

no application whatever to the actual conditions existing in the field?

A. I prefer to let that matter be answered by the showing of facts that will subsequently be presented.

Q. This goes to the competency of the exhibit itself now.

A. I prefer to let the matter rest that way.

Q. But I think I am entitled to an answer, Mr. Anderson, for the purpose of basing a possible objection to your table, and this is the time to get it.

A. You may make any objection or exception you please in regard to the presentation of those tables and the statement, and you can make it appear that you have a valid objection to the manner or contents of these tables, and it is your privilege to say so.  
[2029]

Q. That is what I am getting at. Now, assuming that the production on any one of these wells occupied an interval of twenty or thirty days for the entire production, instead of a production for the entire year, and that well was shut down by the Associated Oil Company for some reason not due to its unproductiveness or its inability to produce daily a like amount of oil, then wouldn't your tables be inapplicable as bearing upon any conditions actually existing in the Elk Hills?

A. No; I don't think so.

Q. Your production would be increased by a proportionate multiple left in the year?

A. Let me explain. A well might in the course of

one month be laid off for repairs for a number of days, and this, of course, would have to be reckoned with. Now, I don't know anything about the facts in the pumping of these wells. I understand that they made a serious effort—

Q. Just a moment. I don't want you in your explanation to inadvertently put in evidence which is incompetent. You don't want to do that yourself, do you?

A. No.

Mr. Lewers—Is this preliminary to an objection or is it cross-examination?

Mr. Mills—It is preliminary to a valid objection. Will you read that question again, Mr. Examiner? (The reporter reads question beginning at line 16 of the preceding page.)

A. I would have to think over that proposition awhile before I would be willing to answer it. I don't know what is involved and implied in your assumptions, and they seem to me to be contrary to the facts.

Q. You are assuming in your tables here an average production monthly. That is, that the well is pumped each month. Now, I say suppose that entire production came in during one [2030] month, and that from no fault of the well or its ability to produce it was closed down by its owners. Then you would see that the production would be twelve times as great for the year, wouldn't you, and your table would be inapplicable under those conditions, would it not?

A. I think you had better let the court decide that question.

Q. Are you not able to decide that yourself?

A. I may be after due consideration, but I am certainly not going to answer it at this moment.

Q. Well, will you answer this question: It would increase the production for the year twelve times what you have given it?

Mr. Lewers—That is, if you assume that it would continue to make that production.

Mr. Mills—I think that assumption is in the question: That it was closed down not for inability to produce the same amount of oil regularly.

Mr. Lewers—And you would assume that if continued for twelve months it would produce the amount produced in that one month for each of the twelve months?

Mr. Mills—Certainly.

Mr. Lewers—I didn't understand your question that way. I think that is obvious on the face of it—that it would increase by the multiple.

A. You are asking in regard to all these tables. If you will take one specific table and state definitely what your assumption is—

Q. By Mr. Mills—I will ask you to take any one of the wells.

Mr. Lewers—I object to this. It is obviously cross-examination on the substance and not preliminary, because the table is offered on the assumption made in the table. You are [2031] offering another assumption, which is cross-examination.

Mr. Mills—It is preliminary, Mr. Mills, to an objection which I desire to make.

Mr. Lewers—I don't think so. It is calling for another assumption which, of course, requires another table.

Mr. Mills—The witness has offered a table here—an average table for the year—upon the assumption that there is an average production daily of the oil from a certain well. Now, I ask him if the entire production or total amount of oil given in any one of these tables was brought in in one month, the tables would be inapplicable and unfair to the well.

A. I see the force of the assumption now. But you are assuming somewhat different conditions from those stated in the tables.

Q. By Mr. Mills—Yes.

A. The whole matter would have to be calculated on the basis of the assumptions which you make.

Q. Calculated upon the assumptions that I do make, your table—

A. These tables would not fulfill the conditions of your assumed data.

Mr. Mills—I object now on the ground that the data on which the tables were prepared are assumed for a daily production of a certain amount, which is not in accordance with the facts.

The table last referred to and offered in evidence is marked "Defendants' Exhibit 27—L.L.", and is as follows: [2032]

Assuming the following are facts:—

Well No. 1. Sec. 26, 30-23 produced oil of 36° B.

12 months production = 4074.15 bbls.

Monthly average = 340 bbls.

If this oil had a value of 90¢ per bbl.

and a net cost of 33⅓ per bbl

---

the net gain would be 56⅔ cents per bbl.

4074.15 bbls = \$2308.68

2309.68 ) 60.000 ( 25.5 years for amortization

---

For amortization in 5 years

.56⅔ ) 12,000 ( = 21.179 bbls

= 1.765 " per month.

actual prod. = 340 " " "

= less than ⅓ of required amount.

Q. By Mr. Lewers—This table, as I understand it, is based on the assumption that there was a production continuing during the twelve-month period each month?

A. Yes.

Q. Now, referring to well No. 1 located in the southwest quarter of Section 30, in 30-24, in the Elk Hills, and assuming that that well produced a total in eight months during which it was pumped of 2265.15 barrels of oil of 24 gravity; and assuming further that that well cost for labor and material at least \$60,000; and assuming that its depth is 3885 feet. Have you prepared any table showing the expense of operation on the basis of the amortization figures that you have been giving that would be applicable to that well? [2033]

A. Yes sir, only not for the depth of 3885 feet. I have taken a detph of 3600 feet, which is more liberal. That is, it favors the conditions of this well.

Q. Will you produce that table? Is this the one you refer to?

A. It is.

Mr. Lewers—We offer this table in evidence.

Q. By Mr. Mills—In making this table, Mr. Anderson, I understand you to say that you have assumed that the well is 3600 feet deep?

A. Yes.

Q. And you also assume, do you not, that the total production of 2265.15 barrels was a production which was distributed over eight months in the daily average or monthly average.

A. Now, I will have to correct a statement in the assumption made in the first case in regard to this table. The official information that I have in regard to the production here is that during—

Mr. Mills—Just a mintue. I don't think that you probably understand the nature of my objection and which counsel for defendant agrees with me is valid, and that is, that you should not give any hearsay testimony of any alleged facts.

The Witness—I don't desire to.

Mr. Mills—You can discuss this upon any assumption you desire, but don't interject the statement that you have any facts, because they ought to be presented by people who are able to testify to the facts.

Q. Now, let me give you another question: You

have assumed by this offer, which I understand was prepared by you, that the total production of this well on 30 of 30-24 was a daily average production during a period of months—eight months. [2034]

A. No.

Q. Well, a monthly average production during a number of months.

A. I will give you the figures.

Q. I don't want you to give me the figures. I am asking you for a specific statement, now.

A. I will give you the figures from which my assumption was based.

Q. I don't care for that. I am asking you whether or not, generally, you have not by this table assumed an average monthly production for eight months.

A. No; I have not. Six months.

Q. Or six months. Six months. I made a mistake in the number of months.

Mr. Lewers—My question stated eight months. His answer now says six months.

Mr. Mills—All right.

Q. Now, if we assume that this production, according to the facts, came in in an interval less than six months and was not spread over a number of months, your table would not have any application to the facts in the case, would it?

A. If you assume conditions different from those stated in the table I would have to recalculate to meet your assumed conditions.

Q. Well, assume, for example, that the entire pro-

duction of this well was within a period of three months instead of six months, then your table would have no application?

A. It wouldn't apply to your conditions.

Q. No.

A. The conditions of your assumption.

Q. Now, assume that this well flowed ten days when it was first brought in at an assumed depth of 2700 feet, and that [2035] it's reason for stopping in its production was because the casing was shelved down past the formation to prevent it coming out; then your table would have no application, would it?

A. It wouldn't meet the conditions of your assumption.

Q. No. And the increased cost of the great depth which you have assumed here in your table ought not to be charged against a well which would produce as a flowing well at 2700 ft., would it?—or should it?

A. This assumes the condition of pumping of these wells, which was the test that was actually applied.

Mr. Mills—Now, I move that that answer be stricken.

Mr. Lewers—I think it should stand. It is responsive.

Mr. Mills—Well, it is an attempt to state a fact that this witness does not pretend to know.

Mr. Lewis—No; that was in the question.

Mr. Mills—Well, if he states it as an assumed fact, I have no objection to it.

The Witness—Yes. All right.

Q. By Mr. Mills—If, in fact, the well on 30 of 30-24 became a flowing well at 2700 ft. and that the reason it stopped flowing was because the Associated Oil Company pushed their casing down past the formation and closed it out and went on and increased the depth of 3000 ft. then your table charges against the production of that well an enormous amount which would not properly be chargeable to it. Is not that true?

A. This table is not designed to meet any of the conditions that you assume. It is designed to meet the conditions that are presented in the table itself.

Q. Yes. And, assuming the statement which I have just made to be true, then this table would charge against the production of that well an enormous amount of cost not properly chargeable to it? [2036]

A. You are at liberty, Mr. Mills, to assume anything you please and make any deduction you may be able to make valid.

Mr. Mills—Will you kindly read the last question, and see if the witness won't give a different answer?

Mr. Lewers—I submit that has been answered repeatedly—that if you make another assumption you have to have different multiples and different tables, necessarily. I don't see how it could be answered any more wholly, and I don't regard that as preliminary to any objection. It settles me it is merely setting up cross-examination.

Mr. Mills—Well, it goes to the competency of these offers of yours, I think, fairly.

Mr. Lewers—If you desire that, Mr. Mills, I am willing to agree that the tables are applicable only to the conditions under which they are presented, and that if different facts require different calculations, that is a matter so obvious that I don't think it needs to be disputed at all by either one of us.

Q. By Mr. Mills—Have you prepared, or can you now prepare, any figures showing the production-cost for a well 2700 ft deep which would be a flowing well on sec. 30 of 30-24?

A. I have not prepared any such statement; and I presume I might be—

Q. How much less, in your opinion, basing your answer on the experience you have had in preparing these tables, would the production-cost be for that well we are now talking about?

A. What is that?

Q. At 2700 ft instead of 3600 ft, and a flowing well instead of a pumping well.

A. Well, really, I don't feel obliged to answer that question, Mr. Mills.

Q. By Mr. Lewers—Have you calculated that, Mr. Anderson? [2007]

A. I have not.

Q. By Mr. Mills—Well, do you mean that you refuse to answer that question, or is it because you cannot now calculate it?

A. I see, Mr. Mills, that you could ask an indefi-

site number of questions and prolong this examination indefinitely, and I don't know anything about your intentions, and I wish to state right now and here that I don't feel obliged to answer any such questions or to make any such calculation.

Q. Well, now, assuming then, for the purpose of clarifying your intellect, that Mr. King, one of the the men who gave you the information, as you say, testified under oath to the fact that that very well, 30 of 30-24, began flowing and flowed for ten days when it reached a depth of 2700 feet, and that they started drilling deeper and pushed the casing down past the formation from which that oil had come, and that the casing had never been perforated at that point; do you think your table would be applicable to such a condition?

Mr. Lewers—I submit that has been answered repeatedly.

A. That has been answered before.

Mr. Lewers—And I object to the repetition of this question as unduly prolonging the presentation of the direct evidence of this witness. It is not preliminary to any objection, obviously, and I protest against the repetition of questions of that kind which have already been fully answered repeatedly. Have you any objection to the table?

Mr. Mills—Just a moment, Mr. Lewers—

Q. You are unwilling to state, Mr. Anderson, that under the conditions which I have given you, talking them even as assumed conditions, that the production-

cost would be very much less than what this table shows?

A. I am willing to admit that there are conditions which [2038] you could name in which the production-cost would be very much less.

Q. Yes; and is that one of the conditions which I have just named?

Mr. Lewers—Do you mean less depth and finding oil sooner?

Mr. Mills—Yes; and a flowing well.

A. Yes; the conditions which you have named in the assumption answers itself—your question answers itself.

Q. You will admit, will you not, then, that the production-cost would be very much less in a flowing well of 2700 feet?

A. Yes.

Mr. Lewers—The prior tables show that, with respect to the depth, Mr. Mills. That is the purpose of that table.

Mr. Mills—The offer is objected to because it assumes facts not in evidence, because it is immaterial to any of the issues of this case, and because the data which form the basis of this table, as well as the data which forms the basis of the other tables, introduced during this witness' testimony are hearsay, and no opportunity is given to the government to cross-examine the witnesses who furnish the information.

The table last referred to and offered in evidence is marked "Defendants' Exhibit 28—LL", and is as follows: [2039]

Production costs for well 3600 feet deep, costing  
\$60,000, producing 360 bbls per month

24° B. Oil.

	By former schedule	By more probable schedule
Pumping	\$0.032	\$0.128
Pulling and Tubing	.031	.124
Cleaning, etc.	.0252	.10
Maint. and repairs	.12	.48
Handling prod.	.03	.03
Storage )		
Insurance )		
Marketing)	.045	.045
5% Interest (average)	.05	.10
	<hr/>	<hr/>
	\$0.3332	\$1.007

24° B. oil = \$ .50 per bbl

Net cost = 1.007 “

Net loss = \$0.507 “

Net loss per year = \$2,176.24

= Wages of two pumpers  
without provisions.

Q. By Mr. Lewers—Now, assuming, Mr. Anderson, that in well No. 1 of the Associated Oil Company, in sec. 22 of Township 30-23, the facts were as set forth in the copy of the log relating to that well heretofore introduced in evidence, and particularly calling your attention to the discovery that was set forth in that well of water-sand and a flow of hot

salt water at the depth of 2710 feet, what does that indicate to you, as a geologist, concerning the territory in which that well is situated, as to its petroleum character? [2040]

Mr. Mills—That is objected to, for the reason that the alleged copy of the log referred to by counsel is not admissible, or competent evidence in this case, for the reason that the proper foundation for its introduction has not been laid, and it is hearsay on hearsay, and is not admissible for general purposes in this case, and for the further reason that the matter called for is wholly immaterial.

A. Assuming that the statements in this log are trustworthy, and taking these statements in connection with other statements in regard to neighboring wells, I will say that the showing made by this well, or in this log, is to the effect that there is no oil territory at this point, that whatever sands there may be are producing water, hot salt water.

Q. By Mr. Lewers—Is that a favorable or unfavorable indication?

A. It is decidedly unfavorable.

Q. And what bearing, if any, does that, if true, have upon the probabilities of water being in other places in that surrounding territory at a similar depth?

Mr. Mills—That is objected to, for the reason that the witness is incompetent to testify on that question, even assuming that he is a geologist.

A. It establishes the presumption that at all points in the vicinity of this well—in the near vicinity and

for a considerable distance from it and similarly situated along the anticline—similar conditions will be met.

Q. You mean water conditions?

A. Conditions of hot salt water, at this level.

Q. Now, assuming that the actual cost of labor and material in a well sunk in the Elk Hills to a depth of 3600 to 4000 feet is \$60,000, does that represent properly the entire charge that should be made against that particular well? [2041]

Mr. Mills—That is objectionable, because the question is leading and suggestive.

A. No. The cost properly chargeable against a well must include not only the cost of the labor and material put into that well, but the cost of such structures and facilities as are necessary in order that this well may be operated, that is, drilled and operated, and the cost of the wells sunk in any territory must include also the cost of such surface structures and improvements as are necessary for its proper operation.

Q. Well, how about fuel lines and water lines, and so on?

A. These are all surface improvements necessary for the operation of the wells, and the cost of them must be borne by the wells.

Q. Now, assuming, Mr. Anderson, that there are the number of wells in the Elk Hills that are shown upon Defendant's Exhibit 16 and of the depths there shown, and that of all of those wells only three, to-wit: the Associated Company's wells that we have

been referring to, have produced live oil, and assuming, further, that the production of the well in section 30 of township 30-24 amounted in eight months in which it was on the pump to 2265.15 barrels, and the well in section 26 of 30-23 produced during twelve months' pumping 4074.15 barrels, and the well on section 24 produced during four months' pumping 3602 barrels, or a total for the three wells of less than 10,000 barrels, would you, with your knowledge of the geology of the Elk Hills and the conditions that you have observed there and on the West Side, now advise an investor who was in a position to expend money without crippling him, to sink a well in the Elk Hills with the expectation of finding oil in commercial quantities?

Mr. Mills—The question is objected to, because it assumes the existence of facts not in evidence, and for the further reason that it is wholly immaterial what this witness would [2042] advise.

A. As a geologist or as a man having any information about the proper costs of operating oil properties, I certainly would not advise anybody to sink a well anywhere within the limits of the Elk Hills.

Q. By Mr. Lewers—Now, will you explain more fully why you say that?

Mr. Mills—I object to the answer, because the witness has spent the entire day of yesterday attempting to show why. That question was the culmination of the entire day's work on your part.

A. Because the conditions there and the showings made are entirely unfavorable to any profitable

operation. The showing is to the effect—that is, the showing of your assumption is to the effect—coupled with the conditions that are known or exist there, that the territory is decidedly unprofitable and could be drilled and operated only at a great loss to the operator.

Mr. Mills—I move that that answer be stricken, because the witness has shown that he has no first-hand knowledge whatever upon the conditions as to well operations in the Elk Hills, and is depending for his conclusions upon hearsay evidence of hearsay evidence.

Q. By Mr. Lewers—Mr. Anderson, there is one question that I overlooked yesterday. Did you ever have any conversation with Professor Owen at any time in 1905 or later, in which there was a discussion by him of the value of the Elk Hills from any standpoint? You may answer that by Yes or No.

A. Yes.

Q. And what was that conversation, or the substance of it, as nearly as you can recollect it?

A. Mr. Mills—Well, when was it, and where? Who was [2043] present?

Mr. Lewers—I will come to that.

Mr. Mills—Let us come to it now.

A. As nearly as I can recall—

Mr. Mills—Let me lay the foundation here, if you won't.

Mr. Lewers—Well, he started to answer you.

Q. By Mr. Mills—In the first place, I would like to know at what date the conversation took place, as

nearly as you can fix it, the place where it occurred, and who was present, if anyone.

Mr. Lewers—You may answer.

A. I will state that, as nearly as I can recall, it was in November, 1905, on the occasion of a trip that I took with Mr. Owen and a man by the name of Schooler, who was the driver as we went down through the Midway valley, the trip that was referred to yesterday. The Elk Hills were—

Mr. Mills—Now, just a moment. There is the further objection that the answer will be manifestly a self-serving declaration on the part of the defendants between two geologists in the employ of one of the defendants companies.

Q. By Mr. Lewers—You may proceed.

A. The Elk Hills were in plain view as we drove along the road in the Midway valley, and were the topic of conversation between Mr. Owen and myself. We generally agreed, at that time, that there was no likelihood of there being any oil in the Elk Hills at all.

Mr. Mills—I object to that statement, and move that it be stricken from the record. The question was that the conversation was, and this amounts to a conclusion.

Mr. Lewers—I ask that it stand. Proceed.

A. This statement is introductory to the conversation. Mr. Owen remarked that it might be profitable to own some pro- [2044] perty in the Elk Hills from a purely speculative point of view, that he thought it would have a speculative value at some time.

Q. Did he tell you why?

Y. Yes; it was understood. I don't know the language in which he stated it or that he definitely stated why, but I understood what his idea was.

Mr. Mills—This is further objected to for the reason that it is apparently an attempt to explain in advance, by a convenient conversation alleged to have taken place before the acquisition by Mr. Owen of lands in the Elk Hills for oil purposes.

Q. By Mr. Lewers—You may proceed.

A. The matter had been referred to between us before, as to the speculative value of land in the Elk Hills because of its neighborhood to the Buena Vista anticline, which we believed would be oil producing, which he believed to be oil producing; that as soon as there were wells drilled and a production obtained in the Buena Vista Hills or on the Buena Vista anticline at any point, it would immediately stimulate activity by locators and promoters—

Mr. Mills—Now, I don't want to interrupt you, Mr. Anderson, but the question is what the conversation was. By that I assume that the counsel wants the exact conversation, as nearly as you remember it.

Mr. Lewers—I want the substance of the conversation, and I asked him—

Mr. Mills—Well, I shall object to any evidence at all of this conversation unless the conversation is given in its entirety.

Q. By Mr. Lewers—Will you give the substance of the conversation as you recollect it.

A. I can't recall the details of the conversation, but [2045] I can recall the substance of the conversation, and the conclusions that Mr. Owen reached and that I reached myself, and the process of reasoning by which we reached those conclusions—and that is the important thing, it seems to me.

Q. And what was that process of reasoning?

A. The process of reasoning was that in the subsequent development of the country, the oil territory along the Buena Vista anticline, it would naturally and logically bring into demand land neighboring the Buena Vista anticline on the Elk Hills, and that anybody having property there might readily dispose of it at a profit and in that way realize a financial benefit, without any reference to its content of oil at all. It was a purely a psychological matter.

Q. Did you ever make any endeavors to acquire any property in the Elk Hills?

A. I did not.

Mr. Mills—That is objected to as immaterial; and I move that the answer be stricken.

Q. By Mr. Lewers—Mr. Anderson, Mr. A. C. Veatch, an expert called on behalf of the government, testified as follows. I begin reading from page 1352: “Q. Now, in the case of the Elk Hills, have you made any examination of those hills with reference to their possible oil-bearing value? A. I have.

Q. What conclusion did you reach as to the oil character of the Elk Hills? A. That they are oil land. I may say that my investigations were directed pri-

marily to the determination of the conditions existing in 1904, and the conclusion is predicated on the evidence which existed at that time. In a general way to outline the proposition, there are a series of porous beds and associated clays, which are well designed, on the one hand, to afford a reservoir for the oil, and, on the other hand, to prevent undue leakage, which may be traced for many miles along the flank [2046] of the Temblor Range, the east flank in this case, being the important one for this question. In that area there are seepages which have been there from the beginning, which extent for a distance of over fifteen miles, showing the persistence of the oil saturation in these porous layers." Now, I will state at this point that the distance of fifteen miles was subsequently corrected to read "over thirty miles", and in reading of the next question I will make that change. "Q. Are they exposed at all, in any way—those beds? A. Yes. Q. Whereabouts? A. They are exposed on the east flank of the Temblor Range and may be followed there for a great many miles and the porous character readily determined. Now, taking this distance of seepages of thirty miles, and which is, I may say, greater than that, but that is an area that is adjacent to this that is easily shown, it shows impregnation of oil strata extending at least seven and a half miles from a given center. Applying this distance of seven and a half miles from the outcrop, it includes the Buena Vista Hills and the Elk Hills, and the only question which could remain regarding the oil value

of the territory outlined in this way would be with respect to the synclinal areas, the valley lying between the Elk Hills and Buena Vista and McKittrick Hills and the valley lying between the Buena Vista Hills and the outcrop along the front of the range. Both the Buena Vista Hills and the Elk Hills fall within the proven area from geologic determination." Would you agree with that conclusion?

A. I certainly would not.

Q. Why not.

A. Because, he is making the wrong deductions from the data that he affords. The outcrop of oil-bearing beds along the foothills of the Teodoro Range for a distance of thirty miles gives no warrant at all for assuming that it would extend half that distance, or a fourth of that distance, or even [2047] more than a tenth of that distance, from this outcrop toward the basin—interior of the basin.

Q. You are acquainted with Dr. Branner, are you Mr. Anderson?

A. Dr. J. C. Branner?

Q. John Caspar Branner.

A. Yes, sir.

Q. At page 1383 of the record, I read: "Q. In your opinion could any competent geologist observing the natural waste of oil about McKittrick and the stage of development in 1900, or a year or two subsequent to that, and having visited the Elk Hills and made some examination of the structural formation, have failed to have formed an opinion that the Elk

lills were oil in character and that there was an oil-bearing zone underneath those lills? A. I should have said if he did not come to that conclusion he did not understand his business.<sup>22</sup> Would you agree with that statement?

A. I would not. I would rather say that the man that made that statement didn't understand the problems here involved—the geological problems.

Q. Now, is it possible for a geologist who understands his business to determine that land is oil in character by the examination of its structure?

A. Certainly not possible for any geologist, no matter how well qualified he may be, to decide as to the oil-bearing—to decide that land will be oil-bearing solely upon the basis of structure.

Q. What is, in your opinion, the proper function of a geologist in connection with oil land?

A. The proper function and duty is, ordinarily, you might say generally, to look into the geological conditions existing in any proposed area and come to sound conclusions from which he [that] can advise his clients as to their best course to pursue in any proposed operation upon the land. I don't have that that statement is quite full enough; it may not include all of his duties. But he should look into the geological conditions, as far as they are revealed, and advise his clients from a purely commercial point of view, as to what the prospects or lack of oil prospects are, the evidence there might be one way or the other.

Q. Well, now, what, in addition to structure, does he take into consideration?

A. I understand that you are asking as to the essentials of oil land?

Q. Yes.

A. There are obviously four essentials to oil territory, the failure of any one of which might be fatal. The territory must have the proper structural conditions, the proper stratigraphic conditions, the proper source from which oil may be derived in the immediate surrounding country, and last, and most important of all, it must have oil in the reservoir, whatever it might be.

Q. And how can you determine whether it has oil in the reservoir?

A. You can determine it only by drilling wells.

Q. In your opinion, is it possible for a geologist to surely predict the occurrence of oil in paying quantities in undeveloped territory?

Mr. Mills—That is objected to, because the question includes matters which are not relevant to the issue in this case.

A. It obviously is impossible for any geologist to look into the ground below the surface very far. He might infer various things and come to some kind of conclusions, but he [2348] certainly cannot reach a sound conclusion that a given piece of land will be oil producing, without actually drilling it.

Q. By Mr. Lewers—Well, will drilling it be sufficient to determine the problem?

A. It will not be sufficient to determine the problem of its commercial value. Its commercial value cannot be determined by drilling alone, but, in the

event that oil is reached, the well will have to be put on the pump and pumped for a definite number of months or for a definite period of time in order to prove satisfactorily its productive capacity. The final and ultimate test of the value of oil land is the actual production over a period sufficient to recover all costs and pay interest on the costs and to pay a proper dividend above all the costs and above all the interests.

Q. Now, in your opinion, is the discovery of oil in one section of land proof that another adjacent section is oil land?

A. It is not.

Q. Why not?

A. The only proof that you can have of the existence of oil in any area is the actual drilling of wells.

Q. Well, taking the conditions that exist in the Elk Hills as to the strata that go to form the hills and the conditions that geologically must exist in there, would the discovery of oil in one section in the Elk Hills indicate the presence of oil in other sections of the Elk Hills.

Mr. Mills—That question is objectionable, because it assumes matters which the witness states cannot be determined. You say "structural conditions which must exist in the Elk Hill." The witness has already stated that no geologist can tell that without the use of a drill.

The Witness—You are misquoting my statement.  
[2550]

Mr. Mills—You can only tell it be inference.

Q. By Mr. Lewers—You may answer.

A. I didn't state that the geologist could not determine the structure. He can determine the structure. But he cannot determine the oil contents, or if the land contains oil at all, until it is actually drilled, and the finding of oil in the Elk Hills in the positions in which it has been found is no basis for a conclusion that it will be found in any adjacent section of land.

Mr. Lewers—You may take the witness.

Mr. Mills—I will be ready to cross-examine the witness when I have a complete copy of the testimony. We will start in at 10 o'clock tomorrow.

Whereupon the further taking of testimony herein was adjourned until Friday, February 21, 1913, at 10 o'clock A. M.

On Friday, February 21, 1913, at 10 o'clock A. M., the further taking of testimony herein was resumed pursuant to the adjournment: Willis N. Mills, Assistant Attorney-General, appearing on behalf of the plaintiff; and Charles R. Lewers, Esq., appearing on behalf of the defendants.

Mr. Lewers—One more question I want to ask before you start, Mr. Mills.

FRANK M. ANDERSON,

recalled, DIRECT EXAMINATION resumed.

By Mr. Lewers:

Q. Mr. Anderson, frequently in the testimony of Mr. Veatch, a comparison is made between the occurrence of coal and that of oil; will you state what dis-

tion, if any, there is between [2051] the method of occurrence of coal and that of oil?

Mr. Mills—I will object to that, because the witness has not yet shown himself qualified from examinations of coal fields and their occurrence, to pass an opinion of any value on that subject. Until he does so qualify, I think his evidence on the question is incompetent.

Mr. Lewers—I see some merit in your objection, Mr. Mills.

Q. Have you had any experience in connection with coal deposits?

A. I have.

Q. Where?

A. In California and in Oregon and in Wyoming and in New Mexico.

Q. And what was the nature of that experience, will you just state briefly?

A. In California I have made reports on a number of different coal properties, investigated them as thoroughly as the nature of the case would allow; and the same is true of Oregon, Coos Bay region. In New Mexico I have not made any reports. I have, of course, read extensively on the occurrence of coal there and elsewhere all over the United States, wherever coal occurs. I am familiar with the literature on the subject of coal fields, and familiar also with the methods of geologists in estimating coal areas, and I feel that I am qualified to pass judgment upon the merits of coal land, and have been paid for doing this sort of thing more than a few times.

Q. Now, is the analogy between the method of accumulation and occurrence of coal and that of oil a fair one, Mr. Anderson?

A. There is no resemblance strictly, properly, in the occurrence of coal and the occurrence of oil, except that they both occur in sedimentary, stratified beds. This is obviously true from the fact that oil is migratory and moves from point to [2052] point through the formations, and coal does not; coal beds remain where they are originally deposited and do not migrate to any other point. Oil deposits do migrate and are subject to a great many irregularities that do not exist in coal.

Mr. Lewers—No further questions. You may cross-examine.

#### CROSS EXAMINATION

#### OF

FRANK M. ANDERSON.

By Mr. Mills:

Q. On the cross-examination of Dr. John Caspar Branner, a geologist called for the government in this case, Mr. Lewers asked this question, at page 1418 of the reporter's transcript: "Q—Of the men whom you have referred to as having been former students, Mr. Ralph Arnold has been more actively engaged in oil geology than any other, has he not. A—Well, he did more work for the United States Geological Survey than any other one, I presume. Q—And he is a man who has the reputation, deservedly, of being an able geologist, is he not? A—He has; yes sir. Q—And

has devoted, to your knowledge, a very great deal of time and study to the oil geology of California? A—He has. Q—And of the other men whom you have mentioned, who has devoted the greater amount of time to what we might call the scientific study of oil formations in California? A—Well, I expect that Robert Anderson has. He was Mr. Arnold's assistant for some years, and after Mr. Arnold resigned from the United States Survey, Mr. Anderson was put in charge of the petroleum work in California by the Survey." You are not that Mr. Anderson, are you?

A. No sir, I am not.

Q. Your name is Frank M. Anderson?

A. Yes sir.

Q. And that Mr. Anderson is now connected with the United [2053] States; that is, Mr. Robert Anderson is now connected with the United States Geological Survey?

A. No.

Q. Mr. Robert Anderson?

A. No, he is not.

Q. What is he doing?

A. Why, Mr. Robert Anderson is a personal friend of mine, and I happen to know that he is not connected with the Survey at the present time. I don't remember now exactly what capacity he is working in, but he is associated with some other well known geologists, but I don't remember who they are. I received this information within the last three weeks.

Q. Well, don't you know that Mr. Robert Anderson at the present time is at the head of the land

classification board in the United States Geological Survey?

A. No, I don't know that. My information is to the effect that he has left the Survey entirely and is going into private work.

Q. What geologists had the Southern Pacific Company in its employ at the time you entered its service in 1903?

A. Only Professor Dumble and Mr. Owen, as far as I know, and myself, after I had started.

Q. What geologists did the Central Pacific Company have in its employ at the time you were employed by it?

A. I was perhaps the only geologist, and I was not engaged in geological work all the time. I was in the land department of the Central Pacific.

Q. What work were you doing apart from strictly geological work, for that company?

A. I was sent out into the timber belts and asked to work cruising timber lands, and that I objected to, and it is not in my line, and that is the one reason why I wished to leave [2054] the land department and went into the geological department.

Q. Now, in 1903, Mr. Anderson, how old were you?

A. In 1903?

Q. Yes.

A. I was forty years old.

Q. And what railroad companies, if any, have you been connected with as an employee or in any service for which you have been or are being paid?

A. I have not been connected with any railroad company except the Central Pacific Railroad Company. When I left the employ of the Central Pacific Railroad Company, that is, in their land department, I went into the employ of the Southern Pacific Company.

Q. You draw the distinction between a railway company and a railroad company?

A. I do not.

Q. Both companies at one or other times after their existence have been common carriers, have they not?

A. The distinction, Mr. Mills, between the Southern Pacific Company and the Southern Pacific Railroad Company?

Q. I understand the distinction.

A. I was in the employ of the Southern Pacific Company.

Q. Yes, I understand it. And the Southern Pacific Company is a common carrier, is it not?

A. Well, that I am not able to answer.

Q. Now, you are drawing some fine distinctions here and I thought possibly you might carry your distinctions to that extent?

A. Well, I don't know.

Q. The Southern Pacific Company has a lease of the Southern Pacific Railroad Company right of way and its rolling stock, and is operating that railroad as a common carrier; isn't [2055] that true?

A. Well, that is not for me to answer. I am not

qualified to answer those questions at all. I wouldn't attempt to.

Q. And the Southern Pacific Railroad Company is the company which obtained the land grant, the lands which you were examining in company with Mr. Owen under the direction of Mr. Dumble, which you have referred to; is that correct?

A. I am not prepared to answer that, Mr. Mills. If you wish to testify to that effect, why, of course you are at liberty to do so.

Q. Was there anything in my question, Mr. Anderson, that would call for such an indulgence of temper on your part?

A. Mr. Mills, I haven't shown any temper at all. I am simply stating a fact, that this matter is out of my range of knowledge. I don't know anything about it, as I told you at the beginning, and I don't wish to answer any questions in regard to it. I am not qualified to answer such questions, and I do not wish to do so, and the sooner we clearly understand this, I think the more rapidly this case will progress.

Q. Have you finished? You raised the question yourself, did you not, Mr. Anderson, by quibbling over the use of the words "railroad company"?

A. No sir, I did not. I simply stated a fact.

Q. Don't you know, as an employee of the Southern Pacific Company, that it operates a railroad?

A. I presume it does, but the technical questions that you ask I am not able to answer. I don't know anything about that matter; at least I don't know it intimately.

Q. What month of the year 1902 did you enter the employ of the Central Pacific Railroad Company?

A. I entered the land department of the Central Pacific Railroad Company about the 1st of April, 1902. [2056]

Q. And immediately prior to that time, what were you doing?

A. I had been engaged as an assistant in the State Mining Bureau of California.

Q. And just prior to that time what were you doing?

A. Well, I don't understand just what date you mean, prior to that time.

Q. Prior to the time that you went with the Mining Bureau.

A. I was instructor in the University of California; instructor of mineralogy.

Q. And you remained, I understand, with the Central Pacific Railroad Company as a geologist until the 1st of April, 1903?

A. Yes; except as I stated before, that I was on a leave of absence in March.

Q. Now, you stated that while you were with the Central Pacific Railroad Company, a part of your duties were those of a geologist, and in part were those of a timber cruiser. Now, as a geologist, Mr. Anderson, did you make any examination of lands for the Central Pacific Railroad Company?

A. I made examinations of some of their patented lands, yes.

Q. In what state?

A. California and Oregon, and I don't remember that the Oregon lands were definitely owned by the Central Pacific Railroad Company. I was asked, however, to go up into Oregon and see some of the grant lands in which the Southern Pacific Company had some interests.

Q. Now who requested you to go into Oregon to make examinations of grant lands?

A. Mr. W. H. Mills.

Q. Those lands were granted to the Oregon & California [2057] Railroad Company, were they not?

A. I presume so.

Q. And the Oregon & California Railroad Company, like the Central Pacific Railroad Company, was at that time a subsidiary of the Southern Pacific Company?

A. Yes.

Q. As you understand?

A. I presume so. I would state, in further answer to your question, I was sent into the state of Nevada to do similar work.

Q. That is the examination of lands as to their mineral character?

A. Not exactly; to examine patented lands as to the mineral deposits that they contained. One of the first bits of work that I did for the Central Pacific Railroad Company or for the land department of that company, was to examine some iron deposits somewhere east of Lovelocks, Nevada.

Q. Now you stated that in the month of March,

1903, you made your first visit to the Kern River and West Side fields, of Kern County, California?

A. Yes.

Q. What date in March was it, as nearly as you now recollect, that you arrived at the Kern River fields?

A. I don't remember distinctly the date. I can only say it was early in March.

Q. Did you make your examination first of the Kern River fields?

A. Yes.

Q. How much time did you spend on that examination in the Kern River fields?

A. I was there three or four days.

Q. And from there you went immediately to the West Side fields? [2058]

A. I went over to McKittrick.

Q. Now that was about what time in March that you arrived in McKittrick, do you think?

A. I shouldn't tell you that. It was before the middle of March, as well as I recollect.

Q. Somewhere about the 10th or 12th of March, you think?

A. Possibly. I think it was earlier than that.

Q. Now you stated that you entered the employ of the Southern Pacific Company through a letter which you wrote to Mr. Dumble at Houston, Texas; is that correct?

A. Yes.

Q. Was Mr. Dumble in Texas at that time?

A. He was.

A. And this letter of yours was written after your several conversations which you have recited with Mr. Owen?

A. Yes sir.

Q. Now when did you receive a reply from Mr. Dumble in respect to that letter?

A. I received a reply almost immediately.

Q. Where is that letter; have you it now?

A. I have not.

Q. By Mr. Lewers—What became of it, Mr. Anderson?

A. The letter that Professor Dumble wrote to me?

Q. Yes.

A. I have no idea. I presume I destroyed it. I didn't attach any importance to it after it had served its purpose; I had no reason to retain it.

Q. By Mr. Mills—Where did you get the letter, at McKinnick or Beltsville?

A. I got it at Beltsville.

Q. At Beltsville?

A. Yes sir. [2000]

Q. That was your home at that time?

A. Yes.

Q. Now referring, Mr. Anderson, to the trip which you stated that you took with Mr. Owen from Minneapolis north into the Buena Vista Mills, that was the second or third trip?

Mr. Lewers—That was in September, yes, about 1900?

Mr. White—Yes.

Q. Which you took with Mr. Brown, was it not?

A. Yes, that was in September, 1893.

Q. Well, I wanted to identify it as the first, second or third trip, which it was, was it not, as the fourth trip? The first trip I think you said you took up north of McKittrick?

A. Yes.

Q. Now was this the second or third trip which you took there?

A. I don't believe I testified as to that, Mr. White. I told you that I couldn't recall how many times I had been to McKittrick after the first trip in March, 1893, but that on a subsequent occasion, which was in September, 1893, I took this trip with Mr. Brown, and accompanied by the man Mr. Burck, who was Mr. Redwood's assistant. That was in September, 1893.

Q. You traveled along the road traveled road from Martoppe up into the House Vase Hill at that time?

A. I traveled from near Martoppe. I can't recall now definitely the road as followed.

Q. Does the road run up to a place called Martoppe?

A. You understood in 1893 the roads were not the same as they are at this day you are talking of.

Q. That is what I am trying to find out, whether they were the same.

A. No.

Q. Was the road generally north and to a north-

erly dir- [2060] ection from Maricopa? Was this the road here which is shown here? (indicating on map)

A. Well I think more probably it was the road running across this way (indicating). It was a road running rather northeasterly from Maricopa.

Q. At that time you visited Section 11 of 32-24?

A. Yes.

Q. Now did you visit Section 28 in 32-24 at that time?

A. I am not sure that we did. I rather think we did not.

Q. Now, Mr. Anderson, when you entered the employ of the Southern Pacific Company how were you paid, through vouchers from the company itself or by the personal check of Mr. Dumble?

A. I was paid by pay checks which were—you mean while I was in the geological department?

Q. Yes.

A. I was given pay checks which were paid by the paymaster of the Southern Pacific Company.

Q. Do you know how Mr. Owen was reimbursed for his services?

A. He was paid in the same manner as far as I know the fact.

Q. And Mr. Dumble?

A. The same manner.

Q. Did you have any personal conversation with Mr. Dumble prior to your taking employment, and after your letter to him?

A. A very brief conversation.

Q. Where did you meet him?

A. He had a temporary office in what was known as the Union Trust building, I believe, and I met him in that office.

Q. Was that office in connection with the other general offices of the Southern Pacific Company, or apart from them?

A. There were several departments that had offices in [2061] that building.

Q. Of that company.

A. Of the Southern Pacific Company.

Q. Now at the time you took this trip over to Section 11, I have asked you whether you visited Section 28, and your reply was you didn't think you had, was it?

A. I believe we did not visit it on that trip.

Q. Are you acquainted with Section 28 now as to its oil-bearing value?

A. Yes.

Q. Are there any producing wells on that section?

A. Yes.

Q. What, in your opinion, is the character of 28 as to being oil land or not?

A. I believe it is oil land; as far as my information goes there have been profitable wells drilled on Section 28.

Q. What companies, if you know, are operating on that section?

A. I believe the Standard Oil Company has some wells there, and there are one or two other companies

that have wells that are said to have produced oil commercially. I don't know anything about the exact value of those wells or the exact value of the land, and I wouldn't undertake to say that in a commercial sense, really, it was oil land; I couldn't say that these wells are profitable wells. I have seen oil coming from them, and I have heard.

Q. The question was whether you knew what other companies were operating there besides this?

A. I have forgotten now. I have known.

Q. How many producing wells are there on that section now, Mr. Anderson?

A. I couldn't answer that question, Mr. Mills.  
[2062]

Q. That land or the south half of that section was entered by Mr. Owen during his lifetime, at the instance and for the benefit of himself and Mr. Dumble, was it not, as a desert land entry?

Mr. Lewers—To which I object on the ground it is not cross-examination, of any matter brought out on the direct examination: and upon the further ground it is irrelevant to any issue in this case, as it is not in any way concerned with any defendant; purely, if true, private matter pertaining to individuals.

Mr. Mills—The purpose of the enquiry will develop, Mr. Lewers and I think it is strictly within the rule.  
(Last question is read by the reporter).

A. I am not able to say. I do not believe that this was the case, strictly.

Q. Isn't it a fact that Mr. Owen entered the south

half of that section, that Mr. Wible entered the north-east quarter, and Mr. Haberkern entered the north-west quarter, as a desert land claim, and that Mr. Owen held the south half for himself and Mr. Dumble?

Mr. Lewers—To which I make the former objections, to the former question.

A. I have no knowledge of that matter, Mr. Mills, except from hearsay.

Q. By Mr. Mills—Well, you have heard that, haven't you?

Mr. Lewers—To which I object on the ground it is calling for hearsay testimony and not cross-examination.

Q. By Mr. Mills—Didn't Mr. Dumble himself tell you that?

Mr. Lewers—To which I make the same objection.

A. I don't recall that Mr. Dumble ever told me that.

Q. Have you discussed with Mr. Dumble the propriety or impropriety of his connection with the transaction referred to? [2063]

Mr. Lewes—To which I make the same objection.

A. I believe not, Mr. Mills.

Q. By Mr. Mills—And did you not say to Mr. Dumble in substance, that his entry through Mr. Owen of that land as a desert land entry was a fraud and imposition upon the government?

A. I did not.

Mr. Lewers—Mr. Mills, this is not cross-examina-

tion. I don't want to consume your time by repeating the objection.

Mr. Mills—You will see the purport of it before I get through.

Mr. Lewers—I object to any examination along that line, and ask that the objection be considered made before the last question, on the grounds that it is not cross-examination and not relevant.

Mr. Mills—I will agree with you that it may be considered as you ask.

Q. Did you ever discuss the subject of Mr. Dumble's interest in that land which was attempted to be obtained by the use of desert land entry law?

Mr. Lewers—To which I object on the ground that it is calling for hearsay testimony, and upon the ground it is not cross-examination, and not relevant to any issue in this case.

Mr. Mills—Well, suppose we stipulate that your objections go to all these questions of this character, and we will get along.

Mr. Lewers—Well, you vary your question. I think it would be better for me to make my objections. (The last question is read by the reporter.)

A. I have mentioned the matter.

Q. By Mr. Mills—To Mr. Dumble?

A. No, not to Mr. Dumble; that is, I am not sure that I [2064] did; perhaps I did. I have discussed the matter of Mr. Owen's and his interest in this land, but not to criticise either of them. I have mentioned it to Mr. Dumble. My information, the first

information I had of the matter was what Mr. Owen gave me, and he simply said that they had acquired land, and it was a part of this Section 28. I don't know that he even told me at that time by what means he had acquired it, except that he said that there was an old water-well on it, on the north part of the section, and that he thought it might be agricultural land.

Q. You know at that time, Mr. Anderson, that both Mr. Owen and Mr. Dumble attempted to acquire what they believed to be petroleum land, under an agricultural form of entry?

A. I have no—

Mr. Lewers—Wait a moment. I object on the ground that it is not cross-examination, and upon the further ground it is not relevant to any issue in this case, and an attempt to bring into the case a discussion of entirely outside issues, with the obvious purpose of prejudicing a witness to be in this case, and a former employee of one of the defendants who is now dead, and who has no opportunity to be heard in his own behalf, on this earth.

(Last question is read by the reporter)

A. I would like to ask to what time you refer, Mr. Mills.

Q. By Mr. Mills—I refer to the time when Mr. Owen entered the south half of Section 28 as a desert land entry.

Mr. Lewers—Mr. Anderson stated that he didn't

know anything about desert lands there. I object to the question on the further ground it is indefinite.

Q. By Mr. Mills—The question was as to when the entry was made, Mr. Anderson, or to when you discussed it.

A. What time do you refer to, what date or time?

Q. I refer now to the time that you had the discussion [2065] with Mr. Dumble as to that land.

A. I never had any specific or special discussion with Mr. Dumble with regard to this land that I can at all repeat.

Q. Well, you had a discussion with him about this land.

A. The land was mentioned.

Q. Now, at that time, fixing your mind upon the time you have now mentioned, did you not know that both Mr. Dumble and Mr. Owen believed that land to be petroleum land, and took it or attempted to take it under a desert land entry?

A. No, I had no such information as to what they believed.

Q. And you knew that, did you not?

A. The only information I had as to their purpose was what Mr. Owen told me, that they believed it to be agricultural land.

Q. Did Mr. Dumble tell you, and did you laugh about it when he said that he was obtaining that land for orange culture or eucalyptus culture?

A. I don't remember now that I laughed about

it. I smiled more or less at the likelihood of raising oranges there.

Q. Mr. Dumble also told you, did he not, that in vindication of the methods by which they attempted to acquire that land, that he believed it had some water value also?

Mr. Lewers—To which I object, on the ground that the question is double: on the further ground that it is not cross-examination and not relevant to this issue, and on the ground that it assumes a matter not in evidence, that Mr. Dumble was attempting to vindicate some action, and I ask that the question be divided, and the assumption be omitted.

(The last question is read by the reporter.)

Mr. Lewers—And on the further ground it is calling for the witness's conclusion as to why something may have been said.

A. I do not recall this conversation to which you allude, [2066] Mr. Mills. The matter was mentioned between Mr. Dumble and myself, and I believe he did tell me that he thought that it had a value for water and agricultural purposes, basing his conclusion, I believe, upon what Mr. Owen had told him. I wish to state this, that my first information about this matter was given me by Mr. Owen, in which he stated that he had acquired from others whatever claims existed on this land, and he thought it was agricultural land; that there was an old water well, and he believed that they could get some subterranean water for irrigation; and he incidentally told me at the same

time that he had paid out \$1200 to somebody for this claim, and that Professor Dumble was part owner with him. I didn't inquire any further than that. I didn't ask him as to the nature of the claim, whatever it might be.

Q. You believed yourself at that time the land was petroleum land, did you not?

A. I did not.

Q. And you told Dumble and Mr. Owen that you didn't like that method of acquiring lands from the government under agricultural entry when they knew it was petroleum land?

A. I did not.

Q. Now, as a matter of fact, the land which they did acquire was Section 10, 32-24, and the southwest quarter of Section 2 in 32-24, and finally relinquished their desert land entry on Section 28; isn't that true?

Mr. Lewers—To which I object on the ground that the question is not cross-examination; not relevant to any issue in the case; on the further ground that it contains a series of assumptions all stated by counsel, and to answer the question in the form given would be an answer to each and every one of the assumptions; and I ask that the question be divided.

(The last question is read by the reporter.) [2067]

A. I have no knowledge, Mr. Mills, as to what they relinquished, or what Mr. Dumble and Owen acquired in their own names or any other.

Q. By Mr. Mills—Did you accuse Mr. Dumble of fraud and want of good faith in his attempt to acquire

an interest in the south half of Section 28 under a desert land entry when he believed it to be petroleum land?

Mr. Lewers—To which I object on the ground it is not cross-examination; on the further ground that no time is fixed.

A. I did not.

Q. By Mr. Mills—Did Mr. Dumble at any time make a suggestion to you to go in with him upon an analogous transaction, that is, to acquire certain lands in that field by the use of desert land entry, which he knew to be petroleum lands?

Mr. Lewers—To which we object on the ground that it is not cross-examination and not relevant to any issue in this case.

A. Professor Dumble never made any such suggestion to me, Mr. Mills. He knew better.

Q. By Mr. Mills—Did you criticise Mr. Dumble at that time when you had the discussion with him because he did not disclose his hidden interest to the land office in the south half of 28 on which Mr. Owen had entered?

A. I did not.

Q. That entry was contested by mineral locators on the south half of 28, was it not?

Mr. Lewers—To which we object on the ground it is not—

A. I don't know.

Mr. Lewers—Just a minute, Mr. Anderson. We object on the ground it is not cross-examination and not relevant to any issue in this case.

Q. By Mr. Mills—Did Mr. Dumble ever inform you of that [2068] fact?

A. I don't recall that he did. I heard incidentally or through the newspapers, perhaps, that there was a contest.

Mr. Lewers—I move that that be stricken as hearsay.

Q. By Mr. Mills—A mineral contest against this agricultural entry of Mr. Owen's?

A. I heard that there were mineral entries on this land.

Mr. Lewers—I move that that be stricken out as hearsay; irrelevant and incompetent.

Q. By Mr. Mills—Now, did you know, from anything you heard from Mr. Dumble, that the mineral contestants to that entry made Mr. Dumble and Mr. Owen's position so uncomfortable that the parties who held those entries in the land office were obliged to finally submit to the filing of a relinquishment, after the register and receiver had held favorably to their claims in the local land office?

Mr. Lewers—To which we object on the ground that the question contains an assumption not based on any evidence; on the further ground it is not cross-examination and not relevant to any issue in this case and calling for hearsay testimony and incompetent.

A. I have no knowledge of any such transaction, Mr. Mills.

Q. By Mr. Mills—Now, did Mr. Dumble ever communicate to you the fact that he and Mr. Owen, by the use of dummy locators, including almost the en-

tire family of Mr. Owen at that time, had located Section 10, 32-24, and the southwest quarter of Section 2 in the same township, for gypsum?

Mr. Lewers—To which we object on the ground it is not cross-examination; not relevant to any issue in this case; calling for hearsay testimony; incompetent.

A. Professor Dumble never communicated to me any such matter. [2069]

Q. By Mr. Mills—Did you know that Mr. Owen and members of his family had located that land for gypsum?

Mr. Lewers—To which we object on the grounds it is incompetent and irrelevant and not cross-examination.

Q. By Mr. Mills—That is the section immediately west of Section 11 that you visited that day?

A. I will have to say, Mr. Mills, that I haven't any such information. I heard—

Mr. Lewers—I shall object to any hearsay testimony.

Q. By Mr. Mills—You may complete your answer. Don't interrupt the witness.

A. I heard by some means, and I can't tell you now just precisely how, that Mr. Owen and Mr. Dumble were interested in some way in these locations. What the locations were made for I never investigated, and never asked.

Q. You know Section 10 of 32-24?

A. I do.

Q. Isn't that the section where you stated that they

brought in a gas well, or brought in a well which flowed gas for a considerable period?

A. Yes.

Q. And in which you stated on direct examination that you had measured the flow of gas?

A. Yes.

Q. What well was that, Mr. Anderson?

A. That was well No. 1 of the Honolulu Oil Company, as it was known.

Q. Now, did that well produce oil?

A. It did.

Q. Was that the well to which you referred, and was that the section of land on which the well was located, when you stated that the bringing in of that well caused excitement and [2070] activity in the Elk Hills?

A. That was the well to which I referred.

Q. And that was on the section immediately west of the section that you and Mr. Owen visited on your trip from Maricopa to the Buena Vista Hills?

A. Yes.

Q. Now, did you on that trip with Mr. Owen visit Section 10? That would be west of Section 11, that you have mentioned?

A. Yes, we went onto Section 10, on the eastern border of it.

Q. Did you believe at that time that Section 10 was petroleum land?

A. As I stated yesterday, I did.

Q. And that was in 1903?

A. Yes.

Q. Did you have any idea at that time, or have you ever had any idea from the examination that you made of that land, that it had commercial value for gypsum?

A. I have never attempted to estimate its value for gypsum. I don't recall now seeing any gypsum deposits of consequence on the land at all.

Q. And in your belief at that time, that you say is not changed, the paramount value of the land was for its petroleum content?

A. Yes, prospective contents of petroleum.

Q. Do you know Section 2 of 32-24?

A. I do.

Q. Has that land been drilled for oil, to your knowledge?

A. Not to my knowledge.

Q. Do you regard that as prospective oil land?

A. Part of it.

Q. What part of it? [2071]

A. The southwestern part of it.

Q. And when did you first form that opinion about the southwest quarter of Section 2?

A. In September, 1903; the southwest portion, I didn't say "quarter".

Q. Southwest portion. Now, did not Mr. Owen, together with members of his family, for his interest and that of Mr. Dumble, locate both Section 10 and the southwest quarter of Section 2 in 32-24, for gypsum?

Mr. Lewers—To which I object on the ground it is

not cross-examination; not relative to any issue in this case; on the ground that it is indefinite and does not indicate any time; made long subsequent to the issues of the fact in this case.

(The last question is read by the reporter.)

A. I have no knowledge, Mr. Mills, what they located it for, if they located it at all. I only have direct information; I understood that they were mineral locations.

Q. By Mr. Mills—Now, at the time that you were out there on that trip with Mr. Owen when you visited these sections of land, or at least Section 10 and Section 11, did Mr. Owen agree with you that that was prospective petroleum land?

A. He did.

Q. Did you at that time visit the southwest portion of Section 2 in the same township with Mr. Owen?

A. I did.

Q. Did he agree with you at that time that it was prospective petroleum land?

A. The southwest part of 2? Yes.

Q. Has the southwest portion of Section 2, to your knowledge, basing your answer on such examination as you made at that time or any other time, any commercial value for gypsum?

Mr. Lewers—To which we object on the ground it is not [2072] cross-examination, and not relevant to any issue in this case.

(The last question is read by the reporter.)

A. I have never seen any deposits of gypsum on it; at least none that I considered commercial.

Q. By Mr. Mills—This land which I have referred to, Section 10, and the southwest quarter of Section 2 was afterwards patented to Richardson Brothers, was it not, of the Buena Vista Land & Development Company?

A. I don't know.

Q. Holding in secret trust the interests of Messrs Dumble and Owen, based on those locations?

Mr. Lewers—To which I object on the ground it is not cross-examination; not relevant to any issue in this case, apparently an attempt to bring an entirely different matter into this case, a matter not concerning any of the defendants in this case.

Mr. Mills—Well, now, Mr. Lewers, you have made this objection several times, and I think possibly it would be well for me at this time to state in the record, that it is in evidence here that Mr. Dumble either in August or September, 1903, as the chief consulting geologist of the defendant Southern Pacific Company, went to the office of the land department of the Southern Pacific Railroad Company, and there urged the selection of the lands in this suit, because, as Mr. Stone, the assistant to the acting land agent of the Southern Pacific Railroad Company, believed to be for their petroleum values; and if Mr. Dumble was in the business at about that period of time of attempting to acquire from the government, for his own benefit, petroleum lands, under the guise of agricultural entry, I think it has some bearing upon the motive

which inspired the fraudulent selection of these lands in suit.

Mr. Lewers—Is that all? I move that the entire state- [2073] ment be stricken out, because it is argumentative, and not permitted by the rules to be inserted in the record. And in making that motion, I don't concede that one single statement contained within that argument is based upon anything in this record; and on the contrary it is directly contrary to the evidence that was produced by the witness Stone and the witness Eberlein, witnesses on behalf of the government.

Mr. Mills—Referring briefly to the record of the testimony of Mr. Stone, at page 1704, Mr. Stone was asked this question: "At whose suggestions were the lands," meaning the lands in suit, "placed in the list? A—To Mr. Eberlein, you mean? Q—I am asking you at whose suggestion those lands were selected. A—Mr Dumble, I think. Q—Mr E. T. Dumble? A—Suggested to Mr. Eberlein that they be selected." And on page 1707, the same witness, in explaining his feelings over being discharged from his employment, said, in answer to this question: "Now, you felt some bitterness at that time, didn't you, Mr. Stone, about being let out? A—Naturally. Q—And having in mind the fact that you had been in the employ for some time, did you call attention to any officer of the company to the irregularity, or such as you regarded as an irregularity, of the selection of those lands? A—Probably I did. Still, I don't recollect."

Later on; "Well, in what respect did you regard it as irregular?", referring to the selection of the lands. "A—Mr Dumble, as the geologist, I thought pressed the selections for reasons best known to himself. Q—Yes; and what were those reasons, as you regarded them? A—Shall I answer? Q—I have asked you to answer the question. A—I suppose that as geologist he thought they were oil-bearing lands." I leave it to the court to determine whether I misstated the record.

Mr. Lewers—I am quite content. I notice you didn't read it all. [2074]

Mr. Mills—I didn't read all of your objections.

Q. And you were informed by Mr. Dumble and Mr. Owen that Richardson Brothers held in secret trust for them their interests in those lands?

Mr. Lewers—I make the same objection.

Q. By Mr. Mills—In 10 and 2.

A. 10 and 2, southwest quarter of 2, Township 32-24. I believe Professor Dumble told me that the Buena Vista Land and Development Company held interests for him and Mr. Owen in these lands.

Q. Yes. Mr. Dumble and Mr. Owen both held stock in the Buena Vista Land and Development Company, to your knowledge, did they not?

Mr. Lewers—To which I object, on the ground that it is not cross-examination, and not relevant to any issue in this case.

A. I don't know whether they held stock in the company or in what way their interests were held in the company.

Q. By Mr. Mills—Do you know whether those lands, referring to 10 and 2, were subsequently sold by the Buena Vista Land & Development Company to any person—that is, to any person or company—upon the advice of Mr. Dumble that the lands were petroleum lands?

Mr. Lewers—To which I object, on the ground that it is not cross-examination, not relevant to any issue in this case, no time is fixed.

A. I don't know that these lands were sold upon the advice of Mr. Dumble. I made a report upon these lands myself and my report went to Mr. Matson, who was instrumental in the purchase of these lands, connected in some manner with the purchase of these lands, the Buena Vista Land & Development Company. Just what induced Mr. Matson to buy the land I would not be able to say. [2075]

Mr. Lewers—When was that report made?

Mr. Mills—That report was made in August or September, 1908.

Q. Did you report favorably upon the petroleum values of the lands?

A. I did.

Q. Did you make any report at the request of Mr. Dumble?

A. I did not.

Q. Who requested you to make the report?

A. Mr. L. A. Crandall.

Q. Mr. Crandall was also contemplating the purchase of those lands, was he not, at that time?

Mr. Lewers—To which I object, on the ground that it is not cross-examination, and not relevant.

A. Mr. Crandall was attempting to find somebody to purchase them.

Q. By Mr. Mills—For and on behalf and upon the advice of Mr. Dumble?

A. No; upon the advice that I gave him.

Q. How did you become interested in advising any one as to those lands?

A. Mr. Crandall had asked me if I knew of any good prospective oil land that he might find for some friends and clients of his. He also stated that he had under option a large area of land in the Salinas Valley, and that his people, as he called them, wished me to make a report upon this Salinas land, and also to show them any land that I might know of that was good prospective oil land. I went with Mr. Crandall to see these lands in the Salinas Valley, and I advised him to let them alone, and went with him over into the Midway Valley and to the Buena Vista Hills, and I showed him, among other things, Sections 10 and 2. He asked me to make a report for his people, [2076] as he called them, and in some manner I presume this included Mr. Matson. At any rate, my report, which was made, went to Mr. Matson.

Q. Now, did you first inform Mr. Crandall of the possibility of the purchase of those lands as prospective oil lands or did he first talk with you about them?

A. Mr. Crandall didn't know anything about these

lands—never had been in Kern county, he told me—until I suggested that he go into the Midway field.

Q. Now, how did you know that those lands were for sale? Through Mr. Dumble?

A. Mr. Owen told me, not exactly that Sections 10 and 2 were for sale. The matter is a little more complicated than that. Mr. Owen had told me that he was interested in some land in the Midway on Section 31 of Township 31-23. I introduced Mr. Crandall to Mr. Owen in the office of the geological department of the Southern Pacific, and left them in conversation together. I believe that Mr. Owen told Mr. Crandall that he was interested in some other land, including the sections 10 and 2 referred to, and he directly aroused Mr. Crandall's interest in Sections 10 and 2. Mr. Crandall asked me to include these in my report for him and his people.

Q. Did your report include other lands which were owned by the Buena Vista Land & Development Company?

A. Other lands which were claimed to be owned.

Q. Claimed by them. Those lands which were claimed by them were lands in the Buena Vista and Midway fields?

A. Lands in the Buena Vista Hills.

Q. Yes. And they were lands which they claimed under state scrip selections, were they not?

A. I understood so.

Q. And which were being contested by mineral locations? [2077]

A That is what I understood.

Q You understood also, did you not, that those state scrip selections could only be placed upon agricultural lands and not on mineral lands?

A That was my understanding.

Q And the question of the final title is now held up pending adjudication in the land office?

A I have no information as to that.

Q So that at that time you knew that Mr Owen and Mr Dumble held interests of some character in a financial way in the Buena Vista Land & Development Company?

A Yes.

Q And you assumed that it was a stock ownership, did you not?

A I don't know that I assumed that. I didn't inquire into that matter.

Q And that that company was operating in the acquisition of mineral lands by the use of scrip which could only be placed upon agricultural lands legally?

A I would like to hear your question in full. (Question repeated by the Special Examiner.) Yes: I understood that the Buena Vista Land & Development Company were endeavoring to obtain patents through state selection, scrip.

Q Upon mineral lands?

A Upon these lands.

Q Upon lands which you believed to be petroleum lands?

A Yes sir.

Q Did you know at that time that Mr Dumble and

Mr Owen were contributing to that company geological advice as to lands which they were endeavoring to obtain by the use of agricultural scrip?

Mr Lewers — To which I object, on the ground that it is [2078] not cross-examination, not relevant to any issue in this case.

A I understood that they were.

Q By Mr Mills — That is, you understood, did you not, that they were locating, so far as they could, the most available, open, unappropriated, prospective petroleum lands for that company?

Mr Lewers — Object, on the ground that it is not cross-examination, and not relevant to any issue in this case. We are not trying the Buena Vista land troubles here.

The Witness — I would like to ask if I am obliged to answer all these questions.

Mr Lewers — The objection goes in and you are required to answer, Mr Anderson.

A What is the question, please? (Question repeated by Special Examiner.) I didn't quite catch the question. Let me hear it again. (Question again repeated by Special Examiner.) I am not prepared to answer that question in just the manner in which it is asked. The Buena Vista Land & Development Company were, as far as I can say, attempting to acquire patents for lands that I believed to have a high prospective value as oil lands; but whether or not they are the most available and profitable and promising prospective oil lands I would not say.

Q Well, the question is, eliminating those matters

that you now amend, and accepting your amendment, you understood that Mr Dumble and Mr Owen were advising the Buena Vista Land & Development Company as to the prospective petroleum value of the lands which that company was seeking to acquire by the use of agricultural scrip?

Mr Lewers — I make the same objection. It obviously refers to a time long subsequent to the granting of the patent or the making of the application which is involved in this case.

A Please read the question. (Last question repeated by [2079] Special Examiner.) Yes.

Q By Mr Mills — When did you leave the employ of the Southern Pacific Company as a geologist?

A What is the question, please?

Q When did you leave the employ of the Southern Pacific Company as a geologist?

A I left the geological department of the Southern Pacific Company in the first of September, 1911.

Q What was the occasion of your discontinuing your employment with that company?

Mr Lewers — Object, on the ground that it is not cross-examination, and not relevant to any issue in this case.

A It would be pretty hard to answer your question, Mr Mills. I think that I will say that I left it for business reasons.

Q By Mr Mills — That is satisfactory.

A But I left it of my own volition.

Q When were you employed by the Southern Pacific Company in connection with this case, that is,

in connection with your services as a geologist in this suit, this lawsuit?

Mr Lewers — I will state, Mr Mills, that that might be a little confusing, for the reason that he did some work while he was regularly employed, in this case, in 1911. You are probably referring to the present employment, are you not?

Mr Mills — Yes.

A I believe my work began in November, 1912. My employment as a geologist in this case began then.

Q And has your employment since that time been continuous?

A No.

Q Are you employed, in other words, by the month or the day, or how?

A No; not by the month nor by the day. I don't know that [2080] I can state definitely.

Mr Lewers — He is employed, Mr Mills, as a lawyer very frequently is.

Q By Mr Mills — That is, you have a contingent interest in the outcome of the case?

Mr Lewers — No. He would not take it. He wanted cash.

A No. I am working for a fee. I am paid a fee.

Q By Mr Mills — A fee. Have you been paid the fee yet, or will the fee be paid you on the termination of your services?

A The fee will be paid me later, I presume.

Q Now, since November, 1912, you have spent how much time in the preparation of this case?

A I can't answer that question. I have no idea,

except it has been more or less in my mind at intervals while I was doing other work. I have spent comparatively little time since then directly upon this matter.

Q Now, prior to your leaving the regular employment in the geological department of the Southern Pacific Company, on what date did you commence work in preparation for this lawsuit, that is, concerning the lands in this suit?

Mr Lewers — He did not commence the preparation.

Mr Mills—I object to your constant interpolation of facts and alleged facts in the record. Permit me to examine this witness.

Mr Lewers — The government made preparation for the suit; we didn't.

Q By Mr Mills — What date was it that your attention was first called to the fact that you might be required in this lawsuit?

A As I stated yesterday, I visited the Elk Hills first in April, 1911, and I subsequently made a report upon the geological aspects of the same. [2081]

Q I understand, Mr Anderson. But the question is, When was your attention first called to the fact that your services would be required in this lawsuit?

A Probably in October, 1912.

Q October, 1912?

A That is right. Isn't it?

Q Then, why did you make an examination in 1911 of these lands in suit for the railroad people, for the Southern Pacific Company?

A I was asked to do so by Mr Dumble.

Q Did he tell you at that time that there was a lawsuit on in respect to those lands?

A I don't remember now about that. It was, I believe, after the filing of the suit. When was the suit filed?

Q December, 1910.

A Well, it was after the filing of the suit.

Q It was in April, 1911, I think you said?

A Yes.

Q Well, did he mention to you at that time that there was a lawsuit in respect of these particular lands?

A I understood that my report was to be used in the law department.

Q Of the Southern Pacific Company?

A Yes.

Q You understood that before you went out to the Elk Hills?

A Yes.

Q Now, did you have any considerable discussion with Mr Dumble before you went out to the Elk Hills?

A I did not.

Q Did you have any discussion at all with him?

A Yes. [2082]

Q Did you have any discussion with any members of the law department of the Southern Pacific Company at that time?

A Yes sir.

Q Who?

A Mr D. V. Cowden.

Q Any one else?

A No; I don't recall any one else.

Q Had you read any of the pleadings in the case in this suit at that time?

A I had not.

Q Now, what were your instructions? To examine the lands in this suit or to examine more than the lands in this suit, or were they general instructions?

A They were rather general instructions, to gather all the facts I could as to the geological character of this land.

Q At that time did you visit the gas blow-out which you have referred to on the northwest quarter of 32 of 30 - 24?

A I did not. I had no definite information as to its location. I had been told that it was on Section 30. I went onto Section 30 and searched for it some but I did not find it.

Q That was in April, 1911?

A Yes.

Q When did you find it?

A I saw it first in November, 1912.

Q Who was sent out with you in April, 1911, to make examination of these lands?

A Mr G C Gester.

Mr Mills — Is he the young man that was here?

Mr Lewers — Yes.

Q By Mr Mills — How much time did you spend over there on that occasion, April, 1911?

A Several days. I stated yesterday approxi-

mately the [2083] number of days. I would have to look that up. I don't want to make a conflicting statement. I can state definitely.

Q Well, was it less than a week?

A More than a week.

Q More than a week?

A I think I was at McKittrick nearly two weeks.

Q By Mr Lewers — Have you any memorandum by which you can determine that?

Mr Mills — Well, I don't care for it. I am not trying to have him misstate the fact, and I don't care if it differs from the other.

The Witness — I was there about two weeks.

Q By Mr Mills — About two weeks?

A About two weeks, I believe.

Q Now, did you go back to visit those lands again after that time before November, 1912?

A I did not.

Q What was the occasion of your visit of 1912?

A I wished to see the state of development, as far as I could, and learn what had been done in the interim.

Q And was it on that occasion that you began the collection of data which from the basis of the numerous tables which have been introduced in your testimony in chief?

A No .

Q When did you begin that work?

A As I said yesterday, I began the collection of this matter, the compiling of statistics pertaining to production and costs of production when I was in the

geological department of the Southern Pacific Company.

Q Well, you were in that department a number of years. What year was it?

A I can't tell you that. The tables are based upon a [2084] long series of experience and the collection of data from a long ways back. I drew up these statements upon my general fund of information.

Q You attempted to acquire some data, however, didn't you, that would be up to date?

A I did.

Q In respect to the lands in this suit?

A I did.

Q And that you got in November, 1912?

A I asked for it, I believe, in November, 1912.

Q And when did you get it?

A Well, sometime after that.

Q In 1912?

A No. I believe it was later than that, most of it. Some of it I got in November, 1912, and some of it later.

Whereupon the further taking of testimony herein was adjourned until 2 o'clock P.M., at the same place.

On Friday, February 21, 1913, at 2 o'clock P.M., the further taking of testimony herein was resumed pursuant to the adjournment: Willis N. Mills, Special Assistant Attorney-General, appearing on behalf of the plaintiff; and Charles R. Lewers, Esq., appearing on behalf of the defendants.

FRANK M. ANDERSON,

recalled, CROSS-EXAMINATION resumed.

By Mr Mills:

Q You stated on direct examination that you never reported to Mr. Eberlein, the land agent of the Southern Pacific Railroad Company, during the time you were employed as a geologist in the holding company, the Southern Pacific Company? Is that correct?

A I never reported to Mr Eberlein at any time.  
[2085]

Q Was it your custom to go to the office of the land department of the Southern Pacific Railroad Company, at the instance of Mr Dumble, for the purpose of getting lists of lands inuring to the Southern Pacific Railroad Company?

A No.

Q Did you ever go over there to see Mr. Eberlein for that purpose?

A Not that I recall. I think not.

Q Where did you get the lists of lands which you say and claim you were examining?

A I think they were given to me by Professor Dumble himself in his own department.

Q Did you ever have occasion to indulge in any speculation during the time of your employment as a geologist because of the fact that you were examining lands of the Southern Pacific Railroad Company while you were being employed by the Southern Pacific Company?

Mr Lewers — What do you mean by “speculation”?

A Yes; what do you mean by “speculation”?

Q By Mr Mills — The reason why you were sent out upon lands which were not granted to the company by which you were employed but were granted to another company which was not employing you.

A Doing private work, you mean?

Q No. I mean did it seem strange to you in any way that you were sent out upon lands which fell within the land grant of a company which was not employing you at all and to which you say you were making no report.

A Well, Mr Mills, really I didn't understand the connection between these companies, or if they had any direct connection. I think that I regarded it largely as matter of courtesy. [2086]

Q Courtesy?

A 'M-h'm.

Q That is, it was a matter of courtesy for the Southern Pacific Company to employ geologists to examine lands within the land grant of the Southern Pacific Railroad Company? Is that what you mean?

A Well, I have often been asked to go up into Oregon, inside of the grant limits and outside, at the request of the manager of the O.R. & N. Now, what connection there was between those railroads I didn't inquire into whatever.

Q You knew, did you not, that the Southern Pacific Company didn't have an acre of land which fell to that company under any public land grant?

A That is a matter of general information, just as anybody else might know it, or suppose they knew it.

Q To your knowledge, the Southern Pacific Railroad Company, during the time you were employed by the Southern Pacific Company, maintained no geologic force, did it?

A The Southern Pacific Railroad Company?

Q Yes.

A I believe they did have some geologists.

Q What geologist did they have at that time?

A Well, really I was not very well acquainted with them. There were two or three that knew some geology and mineralogy.

Q Were they men of as high standing in the professional and scientific world as Mr Dumble?

A No.

Q Or as Mr Owen and yourself?

A Well, I couldn't say as to that. I didn't have very much conversation with them.

Q Well, you don't know their names?

A No; really I do not. [2087]

Q Those men were what you call land graders, weren't they? Weren't they known as land graders?

A Why, I believe they acted in such capacity. At least, they furnished information that enabled the office men, or whosoever's duty it was to grade land, to do so.

Q Yes sir. Well, now, did it occur strange to you that the Southern Pacific Company, which you un-

derstood had no land grant, should employ a corps of geologists for the purpose of examining lands?

A No. The Southern Pacific Company acquired a good deal of land outside of the grant, and I often went outside of the grant.

Q You understood, did you not, at that time, that the administration of the land affairs of the Southern Pacific Railroad Company was committed by the directors of that company to Charles W. Eberlein, its land agent?

A I believe that Mr Eberlein was land commissioner.

Q Land agent.

A Land commissioner.

Mr Lewers — No; the term "commissioner" came in later.

The Witness — Did it? Perhaps so.

Q By Mr Mills — Of the Southern Pacific Railroad lands?

A Yes.

Q Now, where did Mr Dumble get the lists of lands which he furnished to you and to Mr Owen for examination?

A I didn't ask him where he got it, and I don't know, except that I suppose he got it from Mr Eberlein's department.

Q Did you know of the trouble which occurred between Mr Dumble and his office and the office of the land department because of the frequent requests for lists of land from Mr Eberlein?

A I did not. [2088]

Q What portion of the lands was given to you to examine and what portion was given to Mr Owen?

A The lands were not divided between us at all. We worked together and separately in these oil districts and we reported separately to Mr Dumble.

Q That is to say, on some lands you would work by yourself, on others you would work jointly? Is that it?

A No.

Q Worked by yourself at all times?

A No. We didn't divide the work up that way. When it was convenient for us to work together we did so on whatever problem might be presented. When it was not convenient for us to work together we worked separately.

Q On separate lands?

A No; not on separate lands. Professor Dumble often asked me to look over certain tracts and report on those tracts to him, and I presume he did the same to Mr Owen.

Q Now, was it a part of Mr Owen's functions as a geologist for the Southern Pacific Company to go out over work which you did separate and distinct from his work and check it over?

A Well, I never thought of it in that light.

Q Well, was it his custom to go out and check up your work after you had done work?

A No; I never — I don't think so. I never — I was not aware of any checking system, one against the other. We worked harmoniously together, and,

as far as I knew, I never criticised his work in the department and I don't think he ever did mine.

Q Well, then, there were some lands, as I understand it, which you examined and reported on which Mr Owen was not required to examine and report upon?

A Yes. [2089]

Q And, vice-versa, he reported on some lands which you were not required to visit and reported upon? Is that correct?

A Well, I suppose he did report on some land that I didn't. Usually I think that he asked me what I thought of certain lands and took my advice to whatever extent he felt justified in doing, as I often did his advice in any report that I made.

Q How long had Mr Owen been active in the discharge of his duties in examining granted lands before you entered the employ of the Southern Pacific Company?

A I couldn't say. He told me when I met him at McKittrick that he had been there a month or a little more. He told me also that he had come down from Oreutt and that he had been at work in Southern Oregon trying to develop a little coal vein that was in Medford.

Q Well, I am not interested in that. Now, at the time you met him, quite by chance, I believe you said, at breakfast-table in a restaurant in McKittrick, you proceeded out that day on this first trip? Is that correct?

A I am not sure that it was that day. I think perhaps it was, but I am not sure that it was that day.

Q Well, on that trip which you took, whichever day it was, you had this conversation with Mr Owen about the Elk Hills, standing out on some promontory west or north of McKittrick?

A Northwest.

Q Northwest of McKittrick?

A Yes.

Q Now, at that time did you know, from anything he said, that he had made examination of the Elk Hills?

A I believe that he told me he did — had been there in the Elk Hills.

Q Prior to the time —

A Yes. [2090]

Q — that he had the talk with you?

A Yes.

Q And that he recognized the anticlinal structure of the hills?

A Yes.

Q Did he say anything at that time about this gas blow-out which you looked for during the month of April, 1911?

A No; he did not.

Q Did he ever say anything to you about it in 1903?

A No.

Q Now, are you quite sure, Mr Anderson, that when you went down to McKittrick on that occasion,

you didn't go there for the purpose of meeting Mr Owen?

A I didn't know there was such a man in existence.

Q You knew of a connection, did you not, of business interests, at least, between the Southern Pacific Company and the Southern Pacific Railroad Company and the Central Pacific Railroad Company, prior to your going down there?

A In a more or less vague way.

Q And you didn't know, at that time, although you had been in the employ of the Central Pacific Railroad Company for a year, that the Southern Pacific Company had a geologist by the name of Owen?

A No. He hadn't been in California up until a month prior to the time I met him. He told me that was his first visit to California, that he had driven down from Oregon with a team — at least he brought his team down from Oregon.

Q Had you met Mr Dumble up to the time you went with the West Side people?

A I had not.

Q Had you corresponded with him in any way?

A I had not. [2091]

Q Had you ever heard of him?

A I heard his name. I had seen his name in print; in fact, before I knew he had any connection with the Southern Pacific Company, and I was told by a university man —

Q Well, we don't care about that.

A Something about Dumble —

Q I don't care about that. That is hearsay. You were wholly ignorant of the existence of Mr Owen, but had you at that time in your mind, and I mean by "that time" the time when you left to go down there to the Kern River field, the possibility that you might go into the geological department of the Southern Pacific Company?

A I had not heard of the geological department of the Southern Pacific Company until Mr Owen told me of it.

Q Well, had you in mind the possibility that you might be employed by the Southern Pacific Company as a geologist at the time you went down to the Kern River field?

A Yes; I had. I had several things in view in going down there.

Q And had you discussed your ambition to take such a position with the Southern Pacific Company, with Mr William H. Mills, the land agent of the Central Pacific Railroad Company?

A I had not.

Q Did you ever make any examination of lands of the Southern Pacific Railroad Company, or claimed by that company, at the instance of Mr Eberlein?

A Yes.

Q You examined some land involving part of Section 11 in Township 11 north, Range 6 East San Bernardino meridian, did you not?

A Where is that situated? I don't recall the position of that land. [2092]

Q Well, let me refresh your memory. That was land which was the subject of a contest held May 5th, 1904, before the register and receiver at Los Angeles, in which a man by the name of Hull appeared on behalf of the Southern Pacific Company, and Jesse F. Waterman appeared on behalf of the contestants.

A I don't remember the name of Waterman.

Q A place near Dunn, on the Salt Lake line there (indicating on map).

A What range was that?

Q That is Township 11 north, Range 6 east.

A I don't remember that section or township. I went out there about that time to make a report on some iron deposits near a place called Cave Canyon. The railroad was in process of construction, and there was no place then by the name of Dunn or any other name in that vicinity.

Q Did you accompany a man by the name of Ernest H. Simmons?

A Mr Simons accompanied me.

Q He claimed to be an assayer, chemist and mineralogist?

A Yes.

Q Are you a civil engineer?

A No, I never did any great amount of work in that line. I knew how to use a compass.

Q Well, you sign yourself "C.E.", or have at times?

A Never did in my life that I recall.

Q Are you familiar with land surveying?

A Yes sir.

Q Have you done land surveying for any companies that you have worked for?

A Well, not anything that I would call land surveying. I can find a section corner when I want to.

Q On this occasion when you went out with Mr. Simmons — [2093]

A Simons.

Q Simons, you never even got on the land in dispute at all, did you?

Mr Lewers — Do you regard this as cross-examination, Mr Mills? I object to it as not cross-examination.

Mr Mills — Well, it goes to his qualifications.

The Witness — What is the question, please?

Q By Mr Mills — You didn't get on the land at all that you went to examine that time, did you?

A Why do you say that?

Q Well, didn't the register and receiver postpone the case because when you came on the stand you hadn't been on the land and never got out of the buggy?

A No sir, no sir. I never started to find a piece of land that I didn't get onto. I have made it a practice always to never report on a piece of land that I didn't find.

Q Did Mr Dumble furnish you subsequent to October 8th, 1904 —

A Subsequent?

Q Yes, subsequent to October 8th, 1904, some

plats of land, including the lands in this suit, for an examination?

(Last question is read by the reporter.)

A I think the first list of land that I ever had that included this land, was in 1911, and I can't say that Mr Dumble furnished me with that list. I think I got it from the law department. Possibly it came through Professor Dumble's hands, I don't know. I was never asked to report on this land prior to 1911.

Q Did you ever examine at any time Sections 1, 3, 5 and 7 of Township 31, south, Range 24 east?

A I did not. I was never on that land until November, 1912. (examining map)

Q Did you examine at any time for the Southern Pacific [2094] Company, Section 1, 3, 5 and 7 in 31 - 23?

A There was only one tract of that land that I think I could have been on prior to 1911.

Q What tract was that?

A Possibly Section 7.

Q Did you make any report on it?

A I did not.

Q Now, on your trip with Mr Owen to the hill northwest of McKittrick, you state that a conversation occurred between you and Mr Owen concerning the group of hills now known as the Elk Hills; you further state that from the point where you were situated, it was possible to view all the surrounding regions towards the valley and along the flanks of the Temblor Range. Now, why is it that you can only remember that portion of your conversation which

you had with Mr Owen in which you said you both at that time believed that the Elk Hills were too far out from the foothills to contain oil?

A Because this case is brought into prominence, and that particular area, and I have been trying to recall what I had thought and what we had said about this particular area.

Q Why did you think it was important to remember that particular conversation?

A Because I had heard, by hearsay, that there were many false accusations out by the Department of Justice.

Q Well, did you regard it as a false accusation that Mr Owen had been in the Elk Hills?

A No.

Q Notwithstanding the fact that vigorous effort was made by counsel to prove, showing him to be in the hills before the issuance of patent, you did not regard it as strange at all, did you?

A No; I didn't regard it as strange at all that he [2095] should go into the hills.

Q You said on direct examination that one of the main purposes of the trip made by you and Mr Owen was to know, as nearly as you could discover, where the prospective and probable oil lands lay; that was true, was it?

A Yes sir.

Q What interest did you have at that time in locating prospective and probable oil lands, when you said that your trip was made as one for purely scientific investigation?

A Because I am an American citizen, and I have rights and privileges of locating land wherever I may find it, if I wish. I didn't go into the Elk Hills, however, at that time.

Q Did you have in mind at that time that you might be employed by the Southern Pacific Company as a geologist?

A Why, I thought of it.

Q What is that?

A I thought of it, yes.

Q Mr Anderson, at page 5053, you said that the oil sands in the Kern River field exist as a delta deposit in the neocene time.

A In what time?

Q Neocene time, which was formed by the Kern River. Now, do you mean by this that the sands which are the source of the oil in the Kern River field were deposited by the Kern River?

A Were deposited in neocene times, not by the Kern River, but they were brought out by Kern River from the adjacent mountains. I don't know that the river bore that name at that distance of time, but the ancestor of the present Kern River, whatever name it might have borne.

Q Or the prehistoric ancestors of the present race might have called it that?

A It had brought the sands out into the basin that were [2096] deposited in marine water and formed a delta.

Q Was the Kern River at that time a fresh or salt water stream?

A Fresh water.

Q Fresh water. We concur.

A I presume.

Q Then the oil sands of the Kern River field were really deposited by fresh water stream running into the valley out of the Sierras, wasn't it?

A I would not say it was deposited by the stream; they were conveyed by the stream into the basin of salt water.

Q And having been conveyed, they were then deposited, were they not?

A Deposited in the water of their own gravity.

Q So that they were then essentially fresh water depositions, weren't they?

A No sir, I can't say that they were. They contain marine shells in abundance.

Q Now, you said that the sands in the Kern River fields extend out into the basin for a distance only of five miles; is that your view?

A It was what I believed at that time.

Q Do you entertain that opinion now?

A It has not been upset.

Q Were the conditions of deposition on the east and west side of the San Joaquin Valley at all similar at the time the Kern River delta was formed?

A Similar in only this: that they were on the borders of the same salt water basin, on opposite borders of the same salt water basin. There were many points of difference between the two.

Q Now, it is a fact well known to geologists, isn't it, [2097] Mr Anderson, that deposits laid down in

large bodies of salt water are much more uniform, regular and persistent in character than deposits formed by rivers and other local fresh water agencies?

A No sir; I can't say that that is true.

Q Why not?

(The last question is read by the reporter.)

A I don't wish to answer any such general questions as that. If you will ask me a specific question, I think I would be more ready to answer it.

Q Well, you are not going to frame the questions for me, are you, Mr Anderson?

A Not at all.

Q I assume, of course, the right to frame the question, and I will ask you to answer the question as framed. Do you regard the question as intelligible?

A No, I do not.

Q You are unable to answer it in that form?

A No.

Q Now, isn't it a fact that oil-sands of marine origin have been shown to have extended over large areas in regions where there has been sufficient development to demonstrate this fact?

A Possibly.

Q Are not conditions of this kind known to exist in the eastern oil field of the United States, as well as in California?

A No.

Q How about Pennsylvania where the drilling

demonstrated the extent and persistence and uniformity of the oil-sands?

A The conditions in Pennsylvania are very different from what they are in California. I am here to testify as to the character of the land about the Elk Hills and the formations in [2098] the outcrop thereabouts, and in the southern end of the San Joaquin Valley.

Q Have you ever visited the Pennsylvania fields?

A No, I have not.

Q Then, when you say they are different, you get that from reading?

A I do.

Q Isn't it a fact that the field there has been demonstrated to exist in almost circular form; for many miles distant the oil-sands can be traced in persistence and uniformity over great areas?

A The conditions in Pennsylvania are very different from what they are in California.

Q Well, in what respect are they different?

A Well, they are very much older, for one thing.

Q Well, does the age make any difference in the ability to trace the oil sands by the drill?

A Not necessarily.

Q Don't you know it to be a fact, based on your reading, if not upon your experience, that the areas in the eastern oil fields in Pennsylvania have been proven to be extensive and persistent?

A I don't think they are very extensive, but there are many local fields that are scattered over the country, but they are all very local, and each one would

have to be taken up separately and individually. The facts connected with these fields do not afford any basis for such generalizations as you have supposed.

Q Now, you held the opinion, did you not, in 1904, that the sands carrying petroleum content could not be expected to extend out more than two or three miles from the outcrop or shore-line, as you call it?  
[2099]

A That is right.

Q Was that opinion at variance with the opinion of all competent geologists at that time?

A That was in accord with all the opinions of the geologists, as far as I know.

Q Are you familiar with the Lost Hills?

A I am.

Q How far out from the shore-line which you have described are the Lost Hills?

A About twenty miles.

Q The Lost Hills have been proven to be petroleum bearing?

A Yes.

Q Then, the view which you had entertained in 1903 and '04 has been proven to be erroneous by discovery of oil in the Lost Hills, has it not?

A Not at all.

Q You say, "We found oil-sands extending out twenty miles from the shore-line."

A You are very much mistaken.

Q Didn't you say so?

A No, I didn't.

Q How far out were they from the shore-line?

A About a half a mile; less than a half a mile.

Q What, the oil-sands.

A Yes, the oil-sands that have been tested in the Lost Hills are within a quarter of a mile of the shore-line.

Q. Did the shore-line you speak of run through the Lost Hills?

A Part of it.

Q Ran through the Lost Hills. Well, didn't the shore-line then also run through the Elk Hills?

A No. [2100]

Q The Buena Vista Hills.

A It ran partly through the Buena Vista Hills. There was a local shore-line, as I stated, and we found evidence of unconformity on the axis of the Buena Vista anticline, and we have found evidences also of unconformity on the axis of the Lost Hills anticline, which proves definitely that there was a local shore-line, about an island mass that extended in that position.

Q That was not the shore-line which you referred as existing along the flank of the Temblor Range?

A No, it was a different shore-line.

Q Now, was this shore-line which you refer to running along the flanks of the Temblor Range the same shore-line to which you referred in the Lost Hills?

A No, that is what I say —

Q Was that a local shore-line?

A I say in the Lost Hills there was a local shore-line.

Q There was no local shore-line in the Elk Hills, was there?

A Not that we have any proof of, or any reason to suspect.

Q Well, you have no reason to deny the fact, then have you, either?

A Yes, I think I have.

Q Because you have no proof of it?

A The presumption is against it.

Q Yet you find a shore-line, a local shore-line, along the Buena Vista Hills?

A Yes.

Q But none along the Elk Hills?

A There is none about the Elk Hills that anybody knows of I think. As I stated and as is stated in the Bulletin No. 406, the Elk Hills are of very recent origin. [2101]

Q Is there any outcrop of oil-sands along the eastern flank of the Temblor Range opposite to the Lost Hills?

A Yes.

Q Do those sands persist to and under the Lost Hills?

A No, I think they do not. In fact, it has been proven that they do not.

Q Then, the sands which carry oil in the Lost Hills have no relation whatever, in your opinion, to the sands which out-crop along the Temblor Range?

A They belong to the same epoch, the Etchegoin epoch.

Q Well, do they bear any relation other than belonging to the Etchegoin epoch?

A The stratigraphic plains are carried under the syncline, which intervenes between the Lost Hills and the outcrop in the Temblor Range.

Q Now, why might not the same conditions exist with reference to the Elk Hills and the line of outcrop opposite to the Elk Hills?

A We have no proof that there were any shore conditions about the Elk Hills during the Etchegoin epoch or any one prior to that or since, but we have definite proof that the Elk Hills are of very recent origin; that they represent the last upward oscillation of the land level.

Q Then, in your opinion there was a local shore-line along the Lost Hills lying to the north and west of the Elk Hills, and a local shore-line lying along the Buena Vista Hills to the south and east of the Elk Hills, but none along the Elk Hills?

A So it appears.

Q You had some conversation, you say, with Mr. Owen about the few boulders that were found near Fellows?

A Yes.

Q You say Mr Owen believed those to be glacial deposits? [2104]

A Yes.

Q And that you expressed the opinion to him at

that time that you didn't expect to find any glacial deposit at so low an altitude?

A Yes.

Q That is, lower than an altitude of 5000 feet, in any part of California?

A Yes.

Q Now, in your opinion, were those boulders part of the Etchegoin or part of the Santa Margarita formation?

A Part of the Santa Margarita formation.

Q In your examination of the Kern River field, you found some boulders of granite origin, didn't you, granitic rock? so large as to suggest unusual conditions, perhaps glacial conditions, there?

A No. There are some river gravels in the surface formation about the field, but they are not in any way connected with the oil measures.

Q Now, I call your attention to your statement made in the Neocene deposits of Kern River, 1911, made by you. Page 95, speaking of the Kern River group: "The group often exhibits sudden alterations, the condition changing quickly from sands, shales and so forth to coarse gravels and boulders. Some of the boulders of granitic rock are so large as to suggest glacial or other unusual conditions during sedimentation."

A Yes sir. I remember that.

Q How do you reconcile those statements?

A These boulders, Mr Mills, occur on the Caliente Creek, which is some fifteen miles or more away from the Kern River field and lie back next to the

mountains where the Kern River group curves back with the Caliente gorge next to the granitic basement rocks, and these are in the shore conditions near the [2103] basement rocks. The Kern oil field lies a long ways from that condition. We have in this condition described in this paper a duplication of the same things that occurs in the Santa Margarita group that we have just referred to.

Q At what altitude are these granitic boulders that you speak of found in the Kern River?

A I should say about five or six hundred feet.

Q So that you have evidently undergone a change of opinion —

A Not at all?

Q —Since the time you talked with Mr Owen—

A Not at all.

Q — about the origin of those boulders?

A Not at all. I merely say there that they suggest glacial conditions; but that don't prove glacial conditions and I didn't take them to represent glacial conditions. I only used that figure to give prominence to the unusual occurrence of those large boulders.

Q At the time you made that statement, you had had more experience, considerably, as a geologist, than when you ventured an opinion to Mr Owen in 1903?

A There is absolutely no conflict, Mr Mills, —

Q Had you not?

A — between those two statements.

Q The question is whether you had had more experience at the time you wrote that statement in the bulletin.

A Oh, yes; I had had more experience, to be sure, because this was some years afterwards.

Q Yes.

A But I am not undertaking to say here at all in this paragraph that that represents a glacial deposit.

Q You do, However, state definitely that the boulders of [2104] granitic rock are so large as to suggest glacial and other unusual conditions during sedimentation, don't you?

A Yes.

Q Now, Mr Owen may not have been so far wrong in his opinion about the boulders found near Fellows?

A He may not.

Q How far is the place where these boulders were found from the Pine Mountains?

A I should say twelve miles or more.

Q You expressed the opinion at that time that those boulders had come from Pine Mountains?

A Yes.

Q From the south?

A Yes.

Q They were worked along the shore-line, I suppose, according to your theory, by the beating of waves?

A I have no idea how they got there, Mr Mills.

Q Well, would that sound plausible —

A It — Yes.

Q — as a geological opinion?

A I had to admit the force of Mr Owen's statement. He thought that those boulders had been carried by drifting ice, and I said the burden of proof was on him to show that any ice existed at that epoch, or any glacial conditions existed at that epoch.

Q Well, might he not with some force have retorted that the burden of proof was on you to show that those great boulders were carried twelve miles from Pine Mountains?

A He did so.

Q Now, if they came twelve miles, as you ventured to believe at that time, what is to prevent their going still further — [2105]

A There is nothing.

Q — to the Elk Hills, for example?

A It is not on the shore-line. It was not in the current of the floating ice.

Q Well, but you cite the boulders as an evidence of shore-line, don't you?

A Well, I will say, Mr Mills —

Q Is not that part of your opinion?

A You are pursuing an unprofitable course of investigation.

Q From your point —

A From my point of view.

Q Well, we will accept that suggestion from you, and we will still pursue it.

A I want to add here —

Q Well, just answer the question.

Mr Lewers — Allow him to finish his answer.

A What is the question, please?

Q By Mr Mills — The question is, if these boulders could have come twelve miles, couldn't they have gone still further, to the Elk Hills, showing there was a shore line there?

A We have no evidence of their having done so.

Q There is nothing to prevent it, according to your theory, is there?

A There is a theory that the moon came from the Pacific Ocean.

Q I didn't ask you about the moon.

A There is no proof one way or the other.

Q There is also a theory that the moon is made of green cheese, but I am not asking you about that.

A Well, you are asking me what is possible. There are many things possible. It is possible that the moon came from [2106] the basement of the Pacific Ocean.

Q. Now, will you please confine yourself, without further digression to the question in hand, Mr Anderson? Just read the question to him please. (The question: "Q—There is nothing to prevent it, according to your theory, is there?", was repeated by the Special Examiner.)

A No; there is nothing to prevent it, as far as I know.

Q Now, at the time you made the first trip into the Buena Vista Hills you came back to McKittrick through that little draw or valley between the Elk Hills and the Buena Vista Hills, didn't you, on the road?

A Yes.

Q And you say you observed some erosion, evidences of erosion, in the Buena Vista Hills at that time?

A Yes.

Q You didn't go into the Elk Hills, as I understand you, until 1911, but saw them as you went by?

A Yes.

Q Did you observe any erosion in the Elk Hills at that time?

A Very slight erosion.

Q What is the difference in the nature of the anticline, the anticlinal arch, of the Elk Hills as compared with the Buena Vista Hills?

A The Buena Vista Hills is a long, narrow, simple anticline.

Q Rather sharp, isn't it?

A In part. The Elk Hills as a whole is rather a broad fold of dome-like character, in the main. There are two subsidiary folds, subsidiary series of folds, one to the north of the main axis and one to the south.

Q The anticline of the Elk Hills is a broader arch, is [2107] it not, than that of the Buena Vista Hills?

A Yes.

Q Now, on the occasion that you were there, I think you stated that you noticed 1500 feet or erosion in the Buena Vista Hills?

A Yes.

Q And some erosion in the Elk Hills at that time?

A Yes; comparatively slight erosion.

Q Was your conclusion reached as to the amount of erosion on that trip or was it from later examinations that you have made?

A Later examinations, chiefly. We only noted the fact that there was a great difference in the amount of erosion in the two areas.

Q But to arrive at any conclusion as to the actual amount of erosion, you did not do that until later examinations?

A No; I never attempted to make any definite comparison until lately.

Q Now, wouldn't the fact that the Buena Vista Hills has a sharper arch of anticline than the broad anticline of the Elk Hills account for the more rapid erosion of the of the Buena Vista Hills?

A Well, no. I think the proper way of accounting for it is difference in age of the two folds, of the two uplifts.

Q Well, you have stated that, but I am asking you now whether or not the sharper anticline of the Buena Vista Hills would not erode much faster than the broad anticlinal dome of the Elk Hills?

A The principal factor, Mr Mills, in erosion is elevation. Not the steepness of dip or sharpness of fold, but absolute elevation, relative elevation, I should say — relative elevation. Now, the Elk Hills rise much higher in altitude [2108] than the Buena Vista Hills, and, granting the same length of time for erosion, they would be excavated very much greater than the Buena Vista Hills.

Q Well, isn't it true that one of the elements used

in the calculation of rapidity of erosion is the sharpness or gentleness of the anticline?

A No.

Q Then, you mean to say that a gentle anticline, or one with a gentle arch, would erode as fast, at the same elevation as one of a sharper nature?

A Yes.

Q Erode just as fast?

A Yes. Its elevation is the chief factor in the rate of erosion, or in erosion, and, taken with that, of course, the character of the rock eroded.

Q Have you ever visited the Bellridge field?

A I have.

Q How far out does the Bellridge extend from the line of shore of the Temblor Range, where the outcrop, as you say, exists?

A Well, I had better look at the map. The development in the Bellridge district is, by scale, less than three miles and a half from the Etchegoin shore-line.

Q Three miles, you say? Less than three miles?

A Less than three miles and a half, by scale.

Q If there was a shore-line, Mr Anderson, under the Elk Hills, how far would it be buried?

A Do you mean how deeply it would be buried?

Q Yes. That is, the evidence. How far would the evidence of the shore-line be buried under the Elk Hills?

Mr Lewers — I object to that, on the ground that there is no evidence that there is a shore-line; so how could it be [2109] buried?

Mr Mills — There is no evidence that there is not one there.

Mr Lewers — I think there is.

A I wish you would state definitely, Mr Mills, what shore-line you refer to.

Q By Mr Mills — Well, the shore-line in Etche-goin time.

A I should say that it would be more than — if there is one there, it would be more than 3000 feet. But I am not willing to admit that there is one there.

Q What do you consider the best method of attaining success in reaching oil in commercial quantities?

A Actual drilling.

Q Do you think that geologic advice would be of any benefit in the matter?

A It certainly would. I would like to make this general statement, Mr Mills, that will help you. A geologist is usually able to say where oil will not exist, far more easily than he can say where oil will exist.

Q You entertain the opinion, don't you, that the best success and the greatest amount of success in reaching oil in commercial quantities is by the employment of a geologist?

A What is that?

Q By the employment of a geologist.

A Please read the question.

Q That is, a man who is able to interpret the indications, surface indications, the structure of the country?

A In most cases I would advise the employment of a geologist — competent geologist — before any drilling work was begun. That will reduce your difficulty probably to one-tenth, as a general rule, for the simple reason that a geologist can tell you where not to drill, and the places where you should not drill are more than ten to one. [2110]

Q Geologists have the faculty, sometimes of telling people where to drill, don't they?

A They can point out the likely localities far more successfully than an untrained man.

Q Yes. And in entering an untried field, where the structural conditions are favorable, you would expect to advise a company who intended to invest money in the hopes of producing a paying oil well to employ a competent geologist, wouldn't you?

A Please give me that question again. (Question repeated by Special Examiner.) I would advise them to employ a competent geologist before actually expending money in drilling.

Q What indications did you consider, in 1903, with such experience as you then had as a geologist, as favorable indications to the existence of prospective oil territory?

A The outcrop of oil-sands, of course, taken in connection with the dip and strike of the same, and the general appearance of the sand, and the overlying strata, is one of the most favorable, and the occurrence of asphaltum, oil springs and seepages, and so forth, taken in connection with other things is a very favorable indication.

Q Structure?

A And structure.

Q What sort of structure would you regard as favorable?

A Usually an anticlinal structure is the most favorable.

Q And why is that so, Mr Anderson?

A It facilitates the accumulation and retention of oil if the right stratigraphic conditions and other conditions are present.

Q That is to say, assuming that there is oil, in the first place, in the underlying sands, the anticlinal structure would be the most favorable place for the accumulation? [2111]

A You will have to assume first the presence of sands at all which make the proper stratigraphic conditions.

Q Well, I necessarily assumed that when I was assuming the presence of oil in the sand.

A As I stated once before, there are three or four important factors, the failure of any one of which will probably be fatal.

Q Well, I believe you said there was structure, stratigraphy and presence —

A Available source of oil.

Q Source of oil, and the actual presence of oil?

A Yes.

Q Now, in the Buena Vista Hills, in 1903, you found a favorable structure?

A Yes sir.

Q You found your stratigraphy all right?

A As far as we could tell.

Q In addition to that, you found a gas blow-out?

A Yes.

Q Or oil seepage?

A I didn't say an oil seepage.

Q A gas blow-out?

A Yes.

Q Which you regarded at that time as of asphaltic character?

A Yes.

Q Now, you thought those were ideal conditions for the characterization of that land as highly prospective petroleum land, didn't you?

A I thought those were all favorable conditions for the high prospective character of the land as oil land; yes.

Q And the structure and the stratigraphy being all right, [2112] the presence of the gas blow-out was confirmatory, was it not?

A Under the interpretation that we gave it, that it was asphaltum.

Q Yes. Now, assuming that in the Elk Hills we find an anticlinal structure and stratigraphy correct, and a gas blow-out, which you say you have examined, on Section 32 and is of the same character of blow-out as the one in Section 11, the Buena Vista Hills; now, suppose you had gone into the Elk Hills at that time, in 1903, with that evidence before you, would you not then have believed that the Elk Hills were highly prospective petroleum lands?

A No; I think I would not, for there is consid-

erable difference between the two anticlines. In the first instance, there is a difference in the age, that I would not consider; and a difference in the magnitude of the blow-out. The one in the Elk Hills is not impressive at all, while the one in the Buena Vista Hills is decidedly impressive. Then, the fact that I would have had to face would be that it would require more than 3000 feet of drilling to reach anything in the Elk Hills if there was anything there to reach.

Q Well, you would not know that in 1903, would you?

A Why, not from the information I had then.

Q No.

A No; but —

Q Well, I mean taking the information you had then, Mr Anderson, and the conditions which actually existed at that time, wouldn't you then have considered, in view of the structural nature of the fold there, and the other elements and indications including the gas-blow, that the land in the immediate vicinity there was prospective oil land?

A As I stated before, the general position and the general structure of the Elk Hills had attracted my interest from [2113] the first, and if I had seen this gas blow-out in 1903 it would have undoubtedly increased my interest in the area and I would have had two indications that I would have considered favorable; but, as it is my practice to be conservative, I think I would have looked further before I would have advised anybody to invest any money in

drilling there in the Elk Hills, and further investigation would have undoubtedly led me to the facts that I have since discovered.

Q Well, you would not, at that time, Mr Anderson, have thrown out the Elk Hills as possible oil lands, would you?

A No.

Q And the evidence that you had at hand indicated the probability of petroleum content, to your mind, under the conditions as you then viewed them?

A No; they didn't.

Q Well, I say, assuming that you had discovered this gas blow-out in 1903, would you not then have entertained the opinion that that was prospective oil land?

A Temporarily I think I would.

Q Yes.

A But I would have looked further and have discovered the conditions that actually exist there and upon which I based adverse conclusions.

Q Now, what were those conditions which you say you might have discovered if you had looked further?

A The conditions that I have already described, the existence of a shore-line, one or more shore-lines, along the flanks of the Temblor Range, the thickness of the sands there, the general drift of the shore, and the geographical fact that the Elk Hills stand out a long way from the position of this shore-line. Then, next, I would have found out the outcrop of the Tulare and Etchegoin beds, which would have been the means of [2114] estimating the thickness of the over-

lying burden to any supposed oil-sands. As I stated before, I very soon discovered before the close of 1904, that in the outcrop of the Tulare beds and Etchegoin beds there was an aggregate thickness of more than 3000 feet, quite 3000 feet, which has been somewhat reduced by erosion. It is only a logical step from that to the conclusion that the Elk Hills would contain even thicker accumulations of the same epoch, And, in 1903, the problem of drilling for oil was not what it is now; it was a much more difficult problem. 3000 feet was outside of the limits of practical drilling.

Q The deposits, I believe you stated, were thicker out in the basin of the San Joaquin Valley than along the shore? Is that correct?

A I stated that I expected them to be.

Q Yes. Now, if there were deposits of shales which were the source of the oil, they would be thicker, wouldn't they, out in the basin than they would be near the shore?

A Why, yes; the shales and the muds would have a thicker stratigraphic body in the central part of the basin, and if you assume that they contained organic matter from which oil might originate, naturally the assumption answers itself— your question answers itself. To suppose that the stratigraphic body is thicker is to suppose that it is thicker.

Q Then the Elk Hills lying out some distance from the line of outcrop would be in a favorable place for the thickening of the diatomaceous beds which

are supposed to be the origin of the oil, would they not?

A Yes.

Q And at what depth was the oil reached in the well on Section 10 of the Buena Vista Hills? I mean the oil-sands. Where were they first reached? Section 10, 32 - 24.

A I believe the oil-sand was reached at a depth of 2500 [2115] feet, as well as I recall.

Q. Now, under the conditions which you have imposed, or postulated, against the Elk Hills, you would expect to find the oil-sand at a much greater depth in the Elk Hills, would you not, because of the great amount of erosion which you say has taken place in the Buena Vista Hills?

A I didn't say that I expected to find any sand in the Elk Hills.

Q Well, assuming that there was sand there, oil-sand, in the Elk Hills, would you expect that it would be at a greater depth than in the Buena Vista Hills?

A If you refer to supposed sand of the same stratigraphic origin, for instance the Etchegoin sand, if it occurs at all in the Elk Hills, it would be of greater depth than the Buena Vista Hills, and at the point at which this well was drilled in Section 10, the erosion had reduced the thickness of the beds very greatly.

Q Now, assuming that the copy of the log of the well on No. 1 of the Associated Oil Company which has been introduced by the defense is correct —

A What section, please?

Q In Section 26, 30 - 23.

A 26, you say?

Q Yes. I say assuming that exhibit is correct?

A Yes.

Q Are you aware that that log shows 139 feet of oil-sand between 3,860 feet and 4,027 feet?

A What is the thickness of that?

Q Between those two depths that it shows 159 feet of oil-sand?

A 159?

Q 139 feet of oil-sand. [2116]

A Isn't it 159 feet, to be exact?

Q 139. There are some members that are interspersed there.

A Why, I believe in the log that was presented that it shows 159.

Q Well, there was a total of 159 feet.

Mr Lewers — You have a diagram of that haven't you, Mr Anderson?

A I haven't it here.

Mr Mills — You may look at this here (handing to witness.) It should be 159 feet; where it gives the thickness 138 feet it should be 158 feet.

The Witness — I am aware that that record stands in the log.

Q Assuming that to be true and correct, you would have one member of that series, being 58 feet of oil-sand, another 52, separated by 1 foot of hard shell, and then 22 feet of oil-sand separated from the last by 3 feet of sand shell, and then 27 feet of oil-sand separated from the last by 4 feet of hard blue

shale, which would make a total of almost continuous oil-sand of 159 feet?

A That is the way it is represented in the record.

Q Now, what does that indicate to your mind, Mr Anderson, assuming that that is oil-sand and sand carrying oil?

A It indicates a problem that should be tested by actual pumping of the well over a long period of time. Now, if you will permit me, I will give you some hearsay evidence.

Q I don't care for any hearsay evidence. I have got enough of it in the record now. This log is hearsay evidence.

Mr Lewers — I notice you are using it. Whenever you think it is good for you you use it. I notice that is the use you make of hearsay, what you call hearsay. [2117]

Mr Mills — You have introduced it here, and intended to introduce it for certain purposes. I suppose I have a right to cross-examine the witness on what you have produced it on.

Mr Lewers — I know, but you used it before I did.

Q By Mr Mills — Do you think that that amount of oil-sand would be sufficient to interest a man who was interested in the oil business sufficiently to test it? Now, do you know, Mr Anderson, of any place in the Midway field where there is 159 feet of oil-sand?

A No, I do not.

Q And that is the deepest oil-sand that you know

of in the California field, isn't it, right there in the Elk Hills?

A Well, Mr Mills, please don't roar at me or shout at me, nor speak disrespectfully at me in any manner.

Q I am not roaring at you, Mr Anderson.

A I can hear perfectly well, and it is not necessary.

Q Mr Anderson, I don't know that your attitude on the stand gives promise of the fact that you are any clear judge of what courtesy means.

Mr Lewers — Mr. Mills, I object to that. Mr. Anderson very properly took exception to your manner that you perhaps were not aware of. Your question was very loud and unnecessarily so, and in a manner that indicated —

The Witness — If you will speak in the quiet manner of a gentleman, I will answer you in the manner of a gentleman.

(The last question is read by the reporter.)

Mr Mills — Let me state on the record at this point that you, as a witness, have asked to have repeated nearly every question, on cross-examination, I think every question that has been asked you so far on cross-examination you have asked to have it repeated. I am trying to make you hear the question so as to save time, Mr Anderson. [2118]

A Mr Mills, it is not the difficulty with my hearing, but your questions have been long and involved, and I wanted to be perfectly sure that I understood their contents.

Q I don't think you ought to object to my making you hear the questions, Mr Anderson.

A I am perfectly willing to hear. I desire to hear.

(The last question is read by the reporter as follows: "Q—And that is the deepest oil-sand that you know of in the California field, isn't it, right there in the Elk Hills?")

A No, that is not true.

Q Do you know of any oil-sand in California of greater thickness than 159 feet?

A Yes, there are greater.

Q Whereabouts is it?

A In the Kern River field.

Q What is that thickness there?

A The sands are distributed throughout a stratigraphic range of 400 feet, in some instances, and there are a great many logs that represent more than 200 feet of oil-sand, or 250 feet.

Q Do you know of any place in the Midway, Sunset field or the McKittrick field, on the West Side, where there is a greater thickness of oil-sand than that shown by the copy of the log introduced here as to well No. 1, of the Associated Oil Company on Section 26 of 30 - 23, in the Elk Hills?

A Yes, I do.

Q Where is it?

A One of the first logs I obtained in the Midway field was that of well No. 5 of the Midway-Oregon; It showed 170 feet of oil sand.

Q Is that the largest that you know of in those three fields? [2119]

A No.

Q Where is the next largest?

A I haven't tried to remember that fact. I think that I have seen some greater thickness of sand represented than that. The Visalia-Midway represents in two of their logs —

Q Pardon me for interrupting you. Is the Visalia-Midway within the district that I have mentioned?

A Yes, it is in Section 25, Township 31 - 22. The records of two of their wells shows more oil-sand than that of the Midway-Oregon, and I would like to state also that the logs of the adjoining properties show three streaks of oil-sand —

Q Just a minute. That would be hearsay. I am asking for things —

A You have asked for one point of hearsay. May I not give another?

Q I am asking you now, Mr Anderson, if you know, on your own information, of any sands in the McKittrick, Midway, Sunset fields thicker than the sands disclosed by this alleged copy of this log in the Associated Oil Company's well in 26, in the Elk Hills.

A Mr Mills, your question seems unfair. Now, I don't know as you insist on my own knowledge that this log is right.

Q No, I said we assumed that to be correct. We will have to assume that. I don't know myself. I

think that probably this was a copy of a copy, and I am assuming.

A I want to follow, really, the proper view and way of looking at this properly. Now, as I stated in these logs of the Visalia Midway property, they show more than 200 feet of oil-sand, and yet the adjoining property shows only about 20 feet, or at most 25 feet, distributed through three thin beds.

Q I am not asking for a comparison of that with the adjoining property, Mr Anderson. I am very specific. [2120]

Mr Lewers — He has a right to complete his answer. I insist that he be permitted to do so.

Mr Mills — Just a minute. I am going to permit him to finish his answer, of course, as long as it is not objectionable, but I don't think the witness understands me. I want specific instances, to your knowledge, Mr Anderson, in the fields I have mentioned of the thickness of the oil-sands you know of that is any thicker than this sand we are speaking of in the Elk Hills.

Mr Lewers — You have a right to complete your answer, Mr Anderson.

A Mr Mills, you wish me to assume that the sand in the Elk Hills is correct as shown by the records, but when I compared that with other records in the Midway fields you called that hearsay evidence. Now, is that fair?

Q. By Mr Mills — Well, I permitted you to go on and testify. I withdrew that objection, Mr. Anderson.

A Well, the thickest sand that I know by well records is probably that of the Visalia-Midway, and that I have reason, as I stated, to discredit that thickness.

Q Well, then, is there any other well which you know of in the Midway, Sunset or McKittrick fields excepting the two which you have mentioned, the Midway-Visalia and one other of them you mentioned, which has a thickness greater than the oil-sand shown here by this log in the Elk Hills?

A I don't now recall any others.

Q Now, basing your answer on your experience and knowledge of those fields, Mr Anderson, what is the average thickness of oil-sand in those hills as nearly as you can judge now?

A You mean in the Midway?

Q McKittrick.

A McKittrick and Sunset fields.

Q And Sunset fields. [2121]

A The average thickness of oil-sands as it appears to me now is much less than sixty feet in any one body.

Q So that assuming this log to be correct which you say you don't assume, but for the purpose of this question, assuming that to be true, the thickness of oil-sand shown in well No. 1 of the Associated Oil Company in Section 26 is far greater than the average thickness of wells in those three districts, the thickness of oil-sands of the wells in those three districts?

A Yes.

Q In fact, it is more than two times thicker than the average, is it not?

A Yes.

Q Mr Anderson, assuming that the facts when developed will show that oil-sand was reached in the well on Section 30 in 30, - 24 of the Associated Oil Company in the Elk Hills at a depth of 2700 feet, and further assuming it to be true that oil flowed from that well and from that sand until it was shut off by sinking a casing down past the formation, wouldn't that indicate to your mind the probability that there has been as much erosion in the Elk Hills as in the Buena Vista Hills, in view of the fact that the well on Section 10 reached approximately the same depth as those flowing oil?

A I wish to remark that that is rather a long sentence and contains a number of assumptions.

Q Well, it is, Mr Anderson. I don't see how I could split it up very well and contain all the elements of my question.

A I would like to ask, though, to what specific well you refer.

Q I refer to the one on Section 10, in 32 - 24.

A In the Buena Vista Hills.

Q Yes.

A But what other well had you in mind? [2122]

Q 26 in 30 - 23.

A I think I will have to answer that question in the negative, for the reason that I can't answer it in the affirmative.

Q That is a good reason, Mr Anderson.

A The fact is, it contains so many assumptions that it is difficult to answer it any way.

Q Well, it is analogous to your assumption that there has been more erosion in the one set of hills than in the other.

Mr Lewers — That is not an assumption, as I take it. That is a statement of fact from observation.

A I think my testimony has been very clear, and with good reason, and there is probably three times as much erosion in the Buena Vista Hills as there is in the Elk Hills.

Q. By Mr Mills — How do you account, then, assuming it to be true —

A It is true.

Q Wait a minute. I haven't finished my question. Perhaps you won't admit it is true when you hear it. Assuming it to be true, Mr. Anderson, that oil was discovered at 2700 feet in the Elk Hills, flowing oil, how do you account for the absence of the enormous thickness overlying the beds?

A I would like to look into the facts in the case, as soon as I can, before I answer that question. You refer to well No. 1 in Section 30, - 24?

Q Yes.

A Please let me look at the record. (Examines record)

Mr Mills — Witness examines copy of the log.

(The question is read by the reporter.)

Mr Mills — Which you have described.

A Well, I will have to answer that in this manner: That as this sand seems not to have been found in the

other [2123] neighboring wells, I would be disposed to regard it as a sporadic sand above the position of the sands that I should expect to exist there, if any did; that is to say, I should not expect this sand that occurs at 2713 feet, as described in the log of this well No. 1, Section 30, to be in the position of the Etchegoin sands represented in the productive fields, McKittrick and Midway.

Q Is that the end of your answer? Have you finished?

(The last answer is read by the reporter.)

Q Then that sand which produces that oil, assuming that it exists and does produce oil in the flowing well at that depth, is not Etchegoin sand; is that what you mean?

A I wouldn't say that it is not Etcheogin sand. The thickness of the Etchegoin beds out here in the position of the Elk Hills ought to be greater than it is in the outcrop about McKittrick, and the outcrop, I have measured it and have other evidences to the effect that it is eight or nine hundred feet thick. The producing sands are at the base of the Etchegoin in the McKittrick and the Midway fields and in the Lost Hills there might be at any point local sporadic sands above that level upon which we could not depend as our source of oil.

Q Well, would you be surprised to find oil-bearing sands at that level in the Elk Hills?

A Yes.

Q And the discovery of oil-bearing sands at 2700

feet in the Elk Hills would seem to upset your theory?

A No.

Q As to the conditions of the underground formations in those hills.

A No; it wouldn't upset my theory, nor would it upset my expectations. It is one of the unexpected things, to be sure. The particular sand that you refer to in this well seems to be [2124] about 9 feet thick, according to the record, and not to have been found in any of the neighboring wells, so it appears that — at least we have no evidence of its very great extent.

Q You are referring now to this alleged copy of the log?

A Yes.

Q On which you based your answer?

A Yes sir.

Q Now, I don't refer to the log at all in the assumption that I have made, Mr Anderson, and have given you no thickness whatever as to the sand. Does that fit your theory which you have given us here of the conditions as you think they must exist in the Elk Hills?

A While I wouldn't expect those sporadic sands to occur, they might occur and I should interpret this sand that you have assumed as a sporadic sand.

Q. That is, the existence of which I have assumed?

A Yes, the existence of which you have assumed. I should interpret it as a sporadic sand, and it would

not upset the validity of my general reasoning, nor my conclusions.

Whereupon the further taking of testimony herein was adjourned until Monday, February 24, 1913, at 10 o'clock A.M., at the same place.

On Monday, February 24th, 1913, at 10 o'clock A.M., the further taking of testimony herein was resumed pursuant to the adjournment: Willis N. Mills, Special Assistant Attorney-General, appearing on behalf of the plaintiff; Charles R. Lewers, Esq., appearing on behalf of the defendants. [2125]

FRANK M. ANDERSON,

recalled,      CROSS-EXAMINATION resumed.  
By Mr Mills:

Q You know, do you not, Mr Anderson, of your own knowledge, that petroleum has been discovered in the Elk Hills and in the even sections of land adjacent and interspersed with the odd sections of land in this suit?

A Well, interspersed with some of the odd sections.

Q Yes.

A Towards the southeastern part of the township.

Q And from your examination of the lands in this suit which you made you can now state, can you not, that the places where the oil has been discovered by the Associated Oil Company are near the axis of the anticline?

A Yes; they are reasonably near the axis of the anticline.

Q And that the wells which you observed on the fringe of the hills and which you said were not in operation at the time you visited those hills in 1912, are remote from the axis of the anticline and in more unfavorable places for the discovery of petroleum at moderate depths?

A Many of them are remote from the axis of the anticline, and all of them are in very unfavorable position, even those on the anticline.

Q So that if proper advice had been given for the location of those wells you think that a greater amount of success could reasonably be expected?

A I think these operators followed the advice of the United States Geological Survey. That may be good or bad. I don't know how you would classify that.

Q Well, you refer by that, I assume, to the geological Bulletin 406?

A Yes. [2126]

Q You don't mean to say that the Survey sent out geologists to tell them just where to locate those wells, do you?

A Why, as I understand, there is a statement in this Bulletin that oil would be found probably along the axis of the anticline within a distance of nine hundred to fourteen hundred feet from the surface, and everywhere within the limits of the Elk Hills within a distance of two thousand feet. This was a general, blanket statement.

Q That was a general statement, you mean?

A Yes.

Q What I mean is, you don't mean to say that the wells were actually located on the ground by specific advice from the Geological Survey in any instance, do you

A Well, no; I don't know that they were, but I do know that many of these operators followed this general suggestion or advice contained in this bulletin.

Q Yes. Just a minute. The particular location of any one well among those which have either been started or brought in in the Elk Hills was not due to any specific advice from the Geological Survey?

A Not that I know of.

Q No. Now, assuming that the exhibits introduced during your evidence, which consist of alleged copies of logs, which you say you examined and on which, as I understand you, you in part formed your opinion, are correct, the greatest amount of success achieved in the sinking of wells was on lands which were contiguous and adjoining and interspersed with some of the lands in this suit, were they not?

A Yes; they were on Sections 24 and 26 in Township 30 - 23.

Q And on 30 of 30 - 24?

A Yes, 30 of 30 - 24. That is, they to some extent [2127] border on Section 25 of 30 - 23, lie somewhat within the triangle formed by these three wells.

Q The wells located in Sections 24 and 26 of the Associated Oil Company also adjoin, beside Section 25, in the same township, Sections 23, 27 and 35, in this suit, do they not?

A Now, part of that I didn't hear. I would like to have the question read. (Question read by the Special Examiner.) Sections 24 and 26 adjoin Sections 23, 25 and 35.

Q And 27?

A Corner with 27.

Q Does not 26 adjoin 27?

A Yes; yes. That is right.

Q Yes. Now, the Standard Oil Company, to your knowledge, owns Section 36 in this township, which adjoins 25 and 35 of the lands in suit?

A No. This is the first time that I heard that they owned 36 at all.

Q You don't know that?

A I do not.

Q Well, you don't mean to say that they do not? Simply that you have not heard it.

A I don't know anything about the matter.

Q You know that the Associated oil-wells on 22 adjoin sections, in addition to some of the sections we have named — adjoin also Sections 15 and 21 in this suit, do you not?

Q The Scottish Oil Fields Limited well adjoins 21, 17, 19 and 29 of the lands in this suit?

Mr Lewers — That is in Section 20, isn't it?

Mr Mills — Yes.

A I believe so.

Q And the Hill Crest and Redlands well adjoin, besides [2128] 21 and 19, Sections 29 and 33 of the lands in this suit? The Hill Crest is on 28?

A Yes.

Q It is part of your theory, is it not, Mr Anderson, that petroleum is not obtained from fresh water-beds?

A I believe I didn't say that.

Q Well, I ask you now, is it true?

A I stated that to my knowledge petroleum was never originated in fresh water beds; that is, in commercial quantities. I think it has originated in limited quantities in fresh water beds; but I don't know of any producing wells.

Q Now, assuming that you are correct in the statement as you have amended it, then the oil in the Elk Hills which has been discovered must have come from marine beds underlying the fresh water beds which you have stated form the surface deposits?

A Yes. That is, I will have to amend that now. It is possible that some of the oil that has been found in the Elk Hills has migrated from marine beds into fresh water beds.

Q That is, they have migrated vertically?

A Well, they might, to a very limited extent, migrate vertically.

Q So that, if that is true, your statement on direct examination that the oil does not migrate vertically is to be amended with respect to the Elk Hills?

A I did not state that oil did not migrate vertically. I said that it would migrate laterally along the bedding-planes far more readily than it would in any other direction or vertically.

Q But it will migrate vertically, and has done so in the Elk Hills?

A To a limited extent I presume that it may anywhere. [2129]

Q Well, when you say "limited extent", you don't really know to what extent it has migrated, do you?

A Well, I would not expect it to migrate very far. Possibly one hundred feet or a little more.

Q You are aware, are you not, that oil has been discovered in the Elk Hills in large amounts at depths of 2700 feet?

A No; I am not.

Q Now, assuming that to be true, Mr Anderson, would not that indicate to your mind that the fresh water deposits in the Elk Hills are not much over 2500 feet thick?

A I have not testified that they were over 2500 feet thick, and that is about as thick as I expected them to be.

Q That is, the fresh water deposits in the Elk Hills?

A Yes. That is, rather, I think that they would fall within 3000 feet in thickness. They might be a little more than 2500 feet in thickness. That is a matter that has not been proved at all.

Q Now, you stated, at page 4985 of the record, that in 1904 you made two measurements in fresh water beds on the West Side and that the thickness at one point was something over 2100 feet and that you had reason to believe that the total thickness had been greatly reduced by erosion.

A Yes.

Q Now, don't your own observations tend to indi-

cate that the thickness of the fresh water beds in the Elk Hills is essentially the same as that in the West Side field?

A No.

Q Now, I notice further, on page 84 of your bulletin on the Neocene deposits, Kern River and Tumbler Basin, you say, speaking of the Neocene series deposited in the Kern River field, that in the deep wells the thickness of these beds is naturally somewhat less, since their positions are farther [2130] from the shore-line. Does not this indicate that the truth of the matter is that if there was any substantial change in the thickness of the beds as the middle of the basin is approached, that there will be a slight thinning rather than a thickening, as you would have the court understand from your testimony?

A This paragraph takes account of the fact that in the Kern River area and in this delta condition the beds are very largely sandy.

Q Now, pardon me for interrupting you. The question is, and I think you should answer that question first and any explanation you want to make afterwards — the question is, Does not that indicate that the truth of the matter is that if there is any substantial change in the thickness of the beds as the middle of the basin is approached, that there will be a slight thinning rather than a thickening?

Mr Lewers — I think the answer is responsive.

A In this particular case; but it will require an explanation.

Q By Mr Mills — That is all right. Answer the question and then go on with your explanation.

A Now, the explanation is that in the instance dealt with in this paragraph the beds in the limits of the delta formed here are very largely sandy and the sandy element diminishes rapidly toward the west and that does reduce the aggregate thickness of the beds. Delta conditions, however, are exceptional, and they are not represented on the West Side fields at all, nor do they represent the normal state of affairs within any basin. Delta conditions are exceptional and must be treated as such, and the conclusions derived from such conditions, the study of such conditions, are not applicable to all conditions and would not be applicable to this area on the [2131] West Side.

Q Now, if, as you have stated, fresh water beds would be expected to thicken as you approach the middle of the basin, is not the same thing true of the oil-sands and at the base of the formation?

A No; that is not true. I stated that the muds and clays would thicken toward the interior of the basin, and the tendency is always in a basin of limited extent to build up a thicker series of sediments but they are largely clays and muds. The sandy elements diminish very much, if they are even present at all.

Q How wide is the basin to which you have referred at the point where the line running across the basin would intersect the Elk Hills and the lands in this suit?

A Approximately forty miles; forty-five miles, possibly.

Q And the nearest point where the Elk Hills approach the Temblor front is about six miles, isn't it?

A The nearest point on the anticline of the Elk Hills is about —

Q I didn't ask you about the anticline. I said the Elk Hills; where they begin the uplift.

A Let me finish my statement and I think it will answer your question. The nearest point on the anticline is about six miles. The foothills of the range come a little nearer to the shore-line of the Etchegoin on the flanks of the Elk Hills.

Q How much nearer?

A The nearest approach of the foot of the Elk Hills to the shore-line is about four miles.

Q Now, the Elk Hills, then approaching as close as that to the old shore-line which you speak of, where the outcrop of the oil-sands appear along the eastern flank of the Temblor [2132] Range, are in a favorable position to receive the accumulation of sand deposits which you have mentioned in great thickness?

A I think not.

Q And the alleged copies of logs which have been introduced here during your testimony tend to prove that statement to be true, do they not?

A No; I think they do not.

Q That in one well, at least, sunk by the Associated Oil Company, there is 159 feet of oil-sand from the 2700-foot level down?

A Not from the 2700-foot level.

Q Well, from what level?

A I will have to refer to the log.

Q Isn't it true they struck oil there at 2500 feet, or thereabouts, in one of the wells of the Associated Oil Company, and that from there on there was 159 feet of oil-sand?

Mr Lewers — Which one are you referring to, Mr Mills?

Mrs Mills — I refer to the well on Section 26 of 30-23, known as well No. 1.

A And what is your question, Mr Mills?

Q Well, I will ask you this question, now. Isn't it true that in well No. 1, of the Associated Oil Company, Section 26 of 30-23, oil-sands were struck at about 3700 feet and continued from there down for 159 feet almost continuously?

A No; I believe not.

Q Showing sands containing oil?

A I believe not. I think that you have the wrong figure yet. It should be about 3860 feet. I can't tell exactly.

Q Well, I am including here the formations which show oil in my question.

A Well, that is not reported in the log as oil-sands. [2133]

Q Well, there is formation there including oil-sands and shales showing oil for 159 feet from about 3700 feet down. Is not that true?

A There was a little oil showing in the shales from about 3720 feet down to the bottom.

Q Now, what proportion from the bottom going

up, that is, from 4000 to 4027, as appears by this exhibit, is oil-sand? That is, how many feet solid oil-sand?

A From the bottom of the well up, according to the record that we have here, there is an aggregate of about 159 feet of what has been called oil-sand.

Q Now, beginning from the bottom, the drilling of the well was stopped at 4027 feet, according to this exhibit, after they passed through 27 feet of oil-sand. Immediately above that, 4 feet of hard blue shale showing oil, then 22 feet of oil-sand; then 3 feet of sand shell and 52 feet of oil-sand; 1 foot of hard shell and 58 feet of oil-sand — which makes 159 feet of almost continuous oil-sand.

A 159 feet of what was called oil-sand.

Q Yes. And that you regard, do you not, as a considerable showing of oil-sand, taken in connection with the theory which you announced on direct examination?

A It is a considerable thickness of sand, if it is sand, and of oil-sand if it is oil-sand.

Q Yes.

A But that does not tell us anything as to its productive capacity.

Q Well, I am quite aware that the log suppresses considerable information as it has been introduced here by the railroad company, Mr Anderson.

Mr Lewers — I except to that remark as being entirely unnecessary and intended to be insulting, and without foundation. [2134]

Mr Mills — Oh, it has foundation, Mr Lewers, you will find disclosed, before we get through.

Mr Lewers — Well, I know it hasn't.

Q By Mr Mills — Now, assuming that the log, even with its limited information, is true, you find, then, 159 feet of oil-sand, according to the various statements of the log, don't you, almost continuously?

A Yes; as it is stated in the log.

Q That does not fit well with your theory, does it, as you have announced here, that there would be a very thin amount of oil-sands in the hills?

A The record as it stands in the log does not seem to harmonize with my theory; but I have some reason to doubt the fact that there is oil-sand there or that it has this thickness.

Q Well, but this log has been introduced during your testimony, or during the testimony of Mr Luke, on behalf of the defendants, as showing the exact conditions in that well, and the questions which have been asked you have been based upon the truth of that assumption. As it stands now, assuming that it is true, it does not fit at all with your theory, does it?

A No; it does not fit my theory very well to see so much sand as represented in this log.

Q Now, you stated, I believe, on direct examination, Mr Anderson, that the thickest sand which you knew of in the Midway field was about 40 feet but you had no distinct recollection of the logs. Later, on cross-examination, you recalled the fact of two logs, I believe, one in the Midway-Oregon, was it?

A Midway-Oregon.

Q And the other in Midway-Visalia?

A Visalia-Midway.

Q Yes. Which apparently had in excess of the amount of oil-sand as shown in well No. 1 that we have just been referring [2135] to on Section 26 of 30 - 23. Those wells which you examined on the Midway-Oregon and Visalia Midway didn't show continuous sand, did they, but were there not intervals of hard shell and blue shales?

A No; as I recollect them they were bodies of continuous sand, or so represented in the logs.

Q Then this showing made by the Associated well No. 1 on Section 26 of 30 - 23, is the third largest oil-sand showing in those three fields, to your knowledge, that is, the McKittrick, Sunset and Midway?

A No; I am not prepared to say that, Mr Mills. This is the third largest of those that were mentioned.

Q Well, it is considerably larger than the average, I believe you said, in the Midway field?

A Yes.

Q The average there is about ten or twelve feet, isn't it, in the Midway?

A No; I think it is thicker than that.

Q How much would you place it at?

A Well, I believe I said that the average was somewhat less than 60 feet, of oil-sands.

Q In the Midway field?

A Yes.

Q Is that your recollection now of the fact?

A Yes.

Q Are not most of the producing wells there of an average thickness of less than 40 feet oil-sand ?

A I don't recall any data from which I can answer that question, Mr Mills. That might be the fact.

Q Well, at any rate, assuming this log to be correct, Mr Anderson, you will admit, won't you, to be fair, that the showing of oil-sand in the well of the Associated on 26 of 30 - [2136] 23 is really a magnificent showing of oil-sand compared with other wells in those three fields ?

A No; I am not prepared to say that that is a magnificent showing of oil-sand, even granting this thickness of sand to exist in the well as shown in the log of this No. 1 on Section 26, 30 - 23.

Q But, from your own statement, it is nearly 250 per cent greater than the average sand showing in the Midway field, one of the largest fields in California ?

A Yes; but, Mr Mills, there is another factor to be taken into account in judging of the merits of oil-sands.

Q I am not asking you about the merits of oil-sands. I am speaking now of the thickness. We will get at the production later on. Confining your answer, now, to the thickness of that sand, aren't you willing to state that where a sand shows in the Elk Hills more than two hundred and fifty per cent greater than the average oil-sand in the Midway field, where they have produced the largest oil-wells in California, as a magnificent showing of oil-sand, as to its thickness ?

A Well, it is a surprising thickness of oil-sand; yes.

Q Yes. Now, assuming that it is true, Mr Anderson, that the well on Section 24 of 30 - 23, Associated Oil Company, struck oil formations — and by that I mean oil-sands — at 2750 feet, and continued then to 3160 feet; that the well on 26 of 30 - 23 struck oil formations at 3138 feet, and continued to 3500 feet; and that the well on 30 of 30 - 24 struck oil at 2700 feet, and continued to 3050 feet; and that the indications on all three wells were practically the same, indicating in all likelihood that they were in the same formations; Would not that indicate to your mind that the sands in which oil has been discovered in those three sections of land are persistent and continuous for a great and considerable distance but practically at the [2137] same level?

A No sir; I think your question assumes too much and your assumptions are contrary to the showing of these logs.

Q Well, now I am not paying any attention to the showing of these logs, Mr Anderson. I have asked you to assume that those facts which I have given you are true. Would that not indicate to your mind that those sands were persistent at about the same level and same thickness for a great distance along the axis of the anticline in the Elk Hills, particularly on the lands in this suit?

Mr Lewers — To which we object on the ground that the original question of which this is merely a partial re-statement makes the logs part of the as-

sumption, and the former answer is necessarily responsive.

Mr Mills — No, I have not mentioned the logs in this question at all.

A I don't see that I can answer your question, Mr Mills, in any way.

Q By Mr Mills — Why can't you answer the question?

A Because it is involved, and it involves assumptions that are contrary to the showing, and there is a double question or two or three questions involved.

Q Well, would you say, Mr Anderson, that if Mr Williams, the geologist of the Associated Oil Company, made oath to the facts contained in that statement, that it is contrary to the showing made in those wells?

Mr Lewers — To which I object on the ground that Mr Williams has not been called as a witness in this case, and has not made any oath at all in this case; an assumption without a foundation.

Mr Mills — I wish to announce to you that we shall put in evidence a statement under oath by Mr Williams to the effect [2138] that those facts are true, and that that is the showing in those wells, Mr Lewers.

Mr Lewers — I understand that you may try to, but this is not legal evidence. I understand Mr Williams was here under legal subpoena and was not put on the stand by the government during the presentation of the government's case.

The Witness — I couldn't answer that question,

Mr Mills, because I don't know anything about the evidence in the case.

Q By Mr Mills — Well, now, I was assuming it to be true. And the facts which I have given you concerning those wells, doesn't that clearly indicate that those sands are about the same thickness, found at about the same levels, and are persistent and uniform along the axis of the anticline?

A I can't answer that question.

Q Why can't you?

A Because I think you have assumed things contrary to the fact, and you have assumed a number of different things that I cannot answer.

Q I will state to you now, Mr Anderson, that I have not assumed anything contrary to the fact; but even if I did assume a thing contrary to the fact, I could ask of you an answer upon that assumption.

Mr Lewers — I object. I object to repeating the question on the ground that the original assumption, as I understood it, did involve the logs, and if it did not, I object on the ground that the question is vague and indefinite, inasmuch as it does not contain any statements of fact upon which an answer could be based, unless the logs are referred to. If you will make an assumption that is intelligible, why it could be answered, but I don't believe now you know just what your assumption was.

(The question: "Q—Now, assuming that it is true, Mr Anderson, that the well on Section 24 of 30, -23 of the Associat-[2139] Oil Company, struck oil formations — and by that I mean oil-sands — at

2750 feet, and continued then to 3160 feet; that the well on 26 of 30 - 23 struck oil formations at 3138 feet, and continued to 3500 feet, and that the well on 30 of 30 - 24, struck oil at 2700 feet, and continued to 3050 feet, and that the indications on all three wells were practically the same, indicating in all likelihood that they were in the same formations: Would not that indicate to your mind that the sands in which oil has been discovered in those three Sections of land are persistent and continuous for a great and considerable distance but practically at the same level?" was read by the reporter.)

A I will have to answer that question in the negative, Mr Mills. But I would like to add a little in explanation: I think that the formations specified in these three wells may be approximately the same, and that within the limits specified oil and indications of oil have been found, but I think the assumption that this formation is oil-sand is incorrect.

Q Well, I am not asking you to make these assumption, but I am asking you to take my assumptions as correct, Mr Anderson. Are you so prejudiced in this case that you won't assume what I give you in a question, Mr Anderson?

A No, Mr Mills, I am not prejudiced in the case. I desire to tell the truth.

Q Why do you always say that the assumption is not according to the fact? I am assuming this to be true. Now, you claim to be a scientific man, and you ought to know what a postulation is.

A Yes, I am willing to consider your assumptions as assumptions, without any prejudice.

Q Now, the well on Section 30 of 30 - 24 is practically two miles from the well on Section 26, as to which I gave you [2140] those depths, is it not?

A Yes.

Q And is approximately a mile and a half from the well on Section 24?

A Yes.

Q And the well on Section 24 is approximately a mile and three-quarters from the well on Section 26?

A Something like that.

Q Yes. So if it is true, as you say, that the formations are practically the same, that there is a persistence at least proven, assuming those facts to be true in that question, of an area covering several miles in extent along the axis of that anticline in all directions.

A No, I wouldn't say that. I could not conclude that there was an area covering several miles. The longest dimension you have mentioned is two miles, and that could hardly be called several miles, and it extends only in one direction, and that wouldn't include every direction.

Q Well, the well on 24 would include the complete triangle, wouldn't it?

A It would complete the triangle.

Q And that would make all directions, wouldn't it?

A There is a triangle defined or outlined by these

three wells in which we might expect the conditions represented in the logs to prevail.

Q Yes. Now, that would indicate, then, at least to your mind, that the persistence and uniformity of that formation passed through Section 25, because it is proven in two different directions?

A Yes, I would say so.

Q What is to prevent, then, the same formation to pass on into 27 from the well on Section 26 and into 23? [2141]

A It might possibly do so, but there is nothing in the evidence or discovery to show that it does do so.

Q Now, I understand your position. There is nothing, then, to prevent it to pass, the same formation to pass on through all the sections of land in this suit, which are on the axis of the anticline, or anywhere near it, so far as you know, is there?

A It might possibly do so.

Q And if it did do so, it would thus prove the presence of enormous thickness of oil-sands underlying the sections of lands in this suit?

A No sir.

Q If it passed through all those sections, you say it wouldn't prove that?

A I understand you are referring to the formations that you specified in these three wells?

Q Yes sir.

A I believe all of those formations which you have specified in the three logs are approximately the same, Mr Mills. The formation as a stratigraphic body would probably continue over the entire area

you name, but the condition of making showings of oil is another matter.

Q Well, leave that matter out. Don't be so alarmed about the possibility that I will show a production of oil here, Mr Anderson.

A I am not alarmed. You ask in this last question if that would not carry with it the assumption or fact that there would be a considerable thickness of sand?

Q Yes sir.

A Now, there is no great thickness of sand shown in the record of those wells in the limits you have mentioned.

Q Isn't there a thickness of 159 feet of solid oil-sand [2142] shown according to the log of Section 26?

A You didn't include that in your original assumption.

Q Isn't it a fact that that much is shown by the log that you just have based your opinion on?

A Not within the limits of the formation that you have defined in your assumption.

Q That is true, but there is that thickness of sand at some point on that log, isn't there?

A Well, according to the showing, yes.

Q Now, I say that, assuming that the wells which have proven the thickness of the oil-sand on these three sections of land have been shown to be in existence at those elevations, and at those thicknesses, then we have a condition of proven oil-sand for a considerable distance along the axis of that anticline?

A Well, I don't think so. Possibly I cannot follow your question. As I understand it, you defined in your original assumption a certain body or strata within these three wells. I am willing to admit that that body or strata might extend, and probably does extend over the entire area of this township; but I cannot carry — I can't see anything in this from which I could conclude that the possible oil-sand would have the same extent.

Q Well, I have assumed that these are oil-sands, Mr Anderson, in my question. Now, if they extend over the entire area, they would still be oil-sands, wouldn't they?

A If you have assumed that they are oil-sands and they continue over the entire area, then, of course, according to your assumption, the oil-sands would extend that far, since you have assumed that.

Q I have not assumed that they extend over the entire area. I have asked you that question, and you have said that [2143] they probably would extend over the entire area.

A Yes.

Q Now, assume that in well No. 1 of the Associated Oil Company on 30 of 30 - 24, struck oil-sand at 2700 feet, and that oil-sand was encountered from that distance down to 3450 feet, or an interval of 739 feet, of which the oil-sand itself, excluding the shales containing oil, amounted to 572 feet in thickness, almost continuously, wouldn't that indicate to your mind the best oil showing, to your knowledge, anywhere in any field in California?

A It is rather a long question, and I would like to understand it fully before I answer. May I have it repeated?

(The last question is read by the reporter.)

A I wouldn't say that it makes the best oil showing, for thickness of sand is not necessarily an oil showing.

Q Well, I have assumed that these sands contain oil, they are oil-bearing sands. Now, on that assumption, wouldn't you conclude this to be the best showing ever made in California?

A No, I would not.

Q For what reason?

A Because a showing of sands carrying oil shows nothing as to its quantitative value. A sand carrying oil may carry it in very sparing quantities, and it remains to be proved even then what the production capacity of that sand is; and I can't say that it is a good showing of oil at all.

Q Did you ever make any test of the porosity of the sands in those wells?

A Not in these wells; I have in similar wells.

Q Of any wells in the Elk Hills?

A No.

Q Have you ever made any comparison, by experiment, with the sands of these wells and the sands of other wells? [2144]

A I have.

Q As to their porosity?

A Yes.

Q I thought you said you never made any examination as to porosity of these wells.

A I misunderstood your question. I will have to amend that. I have never tested these sands at all, but as they are represented in the log, and as I know other sands, I have compared them, the general formation —

Q I just asked you the question whether you had or not, Mr Anderson. As I understand you, then, you have made no examination for the purpose of testing the porosity of the sands in the Associated oil-wells?

A No, I have not.

Q Now, assuming that, notwithstanding the copy of the log to which you continually refer to Section 30 of 30 - 24 does not give the information, that that well, according to the real log of the well, was placed on the pump at 2360 feet on January 22, 1912, with an approximate production of 350 barrels for each 24 hours, wouldn't that indicate to you excellent signs of valuable oil territory, taken in connection with the depth of sand which I have assumed in the first question? (The last question is read by the reporter.)

A I will say that if, as a matter of fact, the well was placed on the pump, and pumped from this formation on the dates mentioned, or near the dates, and made the showing you mention, it would be very interesting showing, and would yet prove nothing of quantitative value.

Q You would dismiss it with the statement that it would be interesting. It would not have any indica-

tion to your mind of even prospective oil territory, would it?

A Yes, it would. [2145]

Q Oh, it would indicate that much?

A It would, and I would think —

Q Now, assuming that the well —

Mr Lewers — Wait a minute. Let him complete his answer.

A I would think that it would be a very proper thing to make a prolonged test of that to see whether the well would actually sustain a production over a long period of time.

Q By Mr Mills — Well, assuming that for some reason best known to the company which brought in that well, the well was shut down, and that reason was not because of its failure to produce at all times, would you take that showing of several days, we will say four or five days at 350 barrels a day, as an indication, with an increasing volume each day, of valuable prospect oil land?

A Yes, it would indicate valuable prospective oil land, and should be looked into as such.

Q Now, wouldn't that land and the land immediately contiguous to it, on that showing, assuming it to be true, have an immediate, prospective commercial value for oil?

A By assuming those facts to be true, or those statements to be true, it would indicate that this land in the immediate vicinity would have a prospective value for oil land, and would indicate that it should be thoroughly tested.

Q Well, wouldn't it indicate that it had a prospective commercial value?

A Yes.

Q You have referred, Mr Anderson, to the well on Section 7 of 31 - 24, which I believe is called the Elk Hills Oil Company's well?

A Where did I refer to that?

Q Did you ever refer to that on your direct examination?

A I think not. [2146]

Q Did you ever visit the well?

A I did.

Q While we are looking for the log, Mr Anderson, let me ask you a question: And in that connection, with that showing, would you not conclude that these lands in the immediate vicinity of that well were chiefly valuable for their oil?

A You are referring to well No. 1 in Section 30?

Q Yes.

A Why, assuming that the statements that you make are true, it would give a high prospective value as oil land, to lands immediately contiguous to the well.

Q And from your knowledge of the conditions, that is, surface conditions there, the general character of those lands, wouldn't you conclude that their chief value would be for petroleum, under those conditions?

A Well, no, I wouldn't. I only would admit that they had a high prospective value for oil, but I wouldn't be willing to state that they had an absolute

value for oil in commercial quantities, or that that was the most valuable feature of the land.

Q Do you know of any mineral value which the land would have greater than its prospective value for petroleum?

A Well, I don't know what its prospective value for petroleum is, quantitatively.

Q I am assuming, now, that the facts which I have given you are true, that is, the basis of the prospective value.

A Yes, but prospective value is not definite as to quantitative.

Q Let me state it this way, Mr Anderson: With that showing, assuming the facts to be true which I have given you, and with that showing, you have stated that you would regard those lands immediately contiguous to have a highly prospective [2147] value for petroleum. Now, wouldn't you conclude also that they would be chiefly valuable for that reason?

A Yes, I think perhaps they would; that is, the prospective value as oil land is greater than its prospective value for any other thing, if that is what you refer to.

Q Yes. Now, haven't considerable sums of money been spent on other reports in California oil fields under less favorable conditions than those assumed by me in my question?

A Undoubtedly.

Q Without a reasonable expectation, too, of producing a paying commercial oil-well?

A Well, I can't say how reasonable the expecta-

tions are. I have known many wild-cat wells being drilled where there was no reasonable prospect of getting anything, from my point of view; the Standard Oil Company and all the large oil companies operating in this state have drilled wild-cat wells where I felt thoroughly satisfied that they had no reasonable chance of getting anything.

Q And on much less evidence than is contained in the assumptions of fact which I have given you in my questions?

A Yes.

Q That is to say, assuming those facts to be true, a man would be justified on that showing in expending large and considerable sums of money, with a reasonable expectation of producing a paying oil-well, would he not?

A Well, I think the reasonable course would be to test the productive capacity of the well before any other money was spent.

Q Now, Mr Anderson, on the showing as I have given it to you, now trying to confine your mind just to those facts, and to assume them to be true, wouldn't that be sufficient, in your opinion, to warrant an ordinarily prudent man in the expenditure [2148] of a considerable sum of money in the hope of producing a commercially paying, profitable oil-well?

Mr Lewers — Is that an assumption on three or four days' production? Are you assuming with that assumption?

Mr Mills — Well, I decline to answer that ques-

tion, because the question has been repeated here five or six times, and he ought to be familiar with it.

Mr Lewers — I want to know, and I think it is right that we should know.

Mr Mills — Make your objection and let's get ahead.

Mr Lewers — I am simply asking if you are making that assumption now or some other assumption; you assumed several different conditions, varied your assumptions.

The Witness — I understand you.

Q By Mr Mills — Now, can you answer that question.

A I believe I did answer it, and I stated that I thought the reasonable thing to do would be to put the well on the pump and make a test extending over a long period of time before any further money was spent on the adjoining ground.

Q Well, now, Mr Anderson, you know of considerable sums of money that have been spent under the advice of geologists, do you not, in California, in drilling wells where they have less showing than I have given you here?

A Yes.

Q And with a reasonable expectation of producing a profitable, commercial oil-well?

A Well, I can't say how reasonable. From my point of view it is hardly reasonable to sink some of the wild-cat wells that I have known, or many of them. Now, I know of a specific case in which the Standard Oil Company sank two wild-cat wells on

the basis of anticlinal structure alone, and they had no reasonable chance of getting anything, for I knew the [2149] formation, and if they had asked me I would have discouraged the whole thing.

Q Well, do you apply the words "wild-cat well" to a well which would be sunk alongside of a well which made that showing?

A Well —

Q Or is every new well a wild-cat well, in your opinion?

A Well, I would consider a well sunk anywhere more than a thousand feet from this well to be a pioneer well.

Q Well, now, we will take your adaptation. On the showing which I have given you, assuming those facts to be true, do you think a man would be justified in the expenditure of money in sinking a pioneer well on those lands, with a reasonable hope or expectation of producing a commercially paying oil-well?

A I think the reasonable thing to do in this case would be to test this well, to find out if it is satisfactory.

Q Answer the question yes or no.

Mr Lewers — I submit he has answered.

A The proposition of defining what is reasonable or unreasonable is a very difficult one, Mr Mills.

Q By Mr Mills — I speak of a reasonable hope or expectation upon that basis.

A Upon my definition of "reasonable", it would not. The reasonable thing is to test this well before you proceed any further anywhere.

Q Well, suppose the well belonged to another man who would not permit you to test it, and you owned land near it, within a thousand feet; do you think you would be justified in spending money in sinking a well within a thousand feet of that well with that showing, with a reasonable expectation of producing a paying oil-well?

A I think I would let somebody else sink it if they felt [2150] disposed to; I would not.

Q And yet you say that you know of geologists who have recommended the expenditure of money in considerable sums in sinking wells unless evidence than that?

A I don't think I said that. Where did I make that statement?

Q You made that statement in the record, that those wells had been sunk on the advice of geologists. Do you know Mr Ochsner?

A Yes.

Q My Ochsner is a geologist, is he?

A Yes sir.

Q And to your knowledge has he not recommended the expenditure of some \$150,000 in the sinking of a well on considerable less evidence than is found in the Elk Hills today?

A I don't know how much money he has recommended to be expended. I don't know exactly what you refer to, Mr Mills.

Q I refer to the well in the Kettleman Hills. Were you present when he testified?

A No, I was not.

Q Well, now, he testified that he has already spent on behalf of friends whom he has induced to go into the proposition with him, and other associates, the sum of \$147,000 in a well in the Kettleman Hills, and has sunk the well now a depth of about 4300 feet, and has found no oil, and he still intends to go on and expend more money to sink that well deeper. Do you think that he is as much justified in doing what he is doing there with the evidence that you know exists in the Kettleman Hills as a man on the facts which I have given you, in the Elk Hills?

A That is a pretty general question, Mr Mills, that I [2151] should not like to answer. There are many circumstances connected with the two propositions not specified in your assumption.

Q Well, I am limiting it to the specific statement in the assumption. Don't you regard that as being evidence, more conclusive evidence to justify a man in sinking a well there than in the Kettleman Hills?

A Other things being equal, it is.

Whereupon the further taking of testimony herein was adjourned until 2 o'clock P.M., at the same place.

On Monday, February 24th, 1913, at 2 o'clock P.M., the further taking of testimony herein was resumed pursuant to the adjournment: Willis N. Mills, Special Assistant Attorney-General, appearing on behalf of the plaintiff; and Charles R. Lewers, Esq., appearing on behalf of the defendants.

FRANK M. ANDERSON,

recalled,

CROSS EXAMINATION, resumed.

By Mr Mills:

Q Your opinion of the character of the lands in this suit was based in part upon examination of the logs of the different wells that appear upon Defendants' Exhibit 16?

A Yes. My present estimate is based in part upon the examination of the logs presented in that exhibit.

Q Now, it appears upon this Exhibit 16 that the Elk Hills Oil Company's well on Section 7 of 31 - 24 is a dry hole, not working or abandoned. Do you recollect that, Mr Anderson?

A Yes.

Q And that was one of the logs which you examined in framing your opinion, was it not?

A Yes. [2152]

Q Now, assuming that the information contained both in the log and as represented on this Exhibit 16 is erroneous, in this respect, that the true log of the well will show that that company struck oil at 4000 feet but that water broke in and the company either had to pull back or drill a new hole, would not that, in connection with the facts which I have given you in the question as to the Associated oil-wells, tend to prove that those beds of oil-sands extend from the Associated oil-wells for a distance of four or five miles to the south and east? What is your answer?

A I am not ready to give the answer yet.

Q Why not?

A I didn't follow your question through sufficiently well to be ready to answer it yet.

Q Well, you had better read the question, Mr Examiner.

(The question beginning at line 22 of page 5234 was read by the Special Examiner.)

A Assuming that the Elk Hills Company on this well on Section 7 of 31 - 24 did reach on oil-sand at 4000 feet, taken in connection with what you have assumed in regard to the Associated wells, farther northwest — this might establish a presumption in favor of the sands being continuous over a distance of three or four miles.

Q And that would not exactly fit your theory which you gave on direct examination either, would it?

A No; assuming that the sands were struck in those wells, and that they were continuous over that area, it would not fit the theory that I held in 1903 or '04 or hold now.

Q You have referred, Mr Anderson, to a paper which you contributed to Bulletin No. 19 on Oil and Gas Yielding Formations of California, embracing Humboldt County?

A Yes. [2153]

Q That was published in 1901?

A Yes.

Q Now, I refer to page 166 of your paper: "On the whole, it may be truthfully said that the best success in reaching oil in this district in commercial quantities will be attained by the employment of some one able to interpret the indications and the structure of the country correctly, for the purpose of making a

detailed report upon it." By "some one", did you mean a geologist?

A Yes.

Q So that you entertained the belief at that time that the greatest amount of success which could be achieved in reaching oil in commercial quantities would be by the employment of a geologist who could understand and interpret the structure and indications correctly for the purpose of making a detailed report on it?

A Yes.

Q Now, speaking generally, you entertain that same opinion now, do you not?

A Yes.

Q As a geologist?

A Yes.

Q And it would not be a violent assumption, would it, to say that in 1903 and '04 that was the opinion of competent men as geologists, that the greatest amount of success to be achieved in obtaining oil in commercial quantities was by the employment of competent geologists?

A That is the first step to be attained.

Q Yes. Now, at the time you wrote that article, I notice that it is signed in print here by "F. M. Anderson, C.E." Was that meant to convey the impression that you held a degree as civil engineer?  
[2154]

A No; not at all. That was not put on there by my authority at all and I didn't see that until after

the bulletin was printed. I didn't know that it was there.

Q Well, I don't make any point upon it.

A If I had been asked, I would have objected to its being put on there.

Q I just called your attention to it because you said you had never asked that to be used.

A I never asked for it or procured it, to my knowledge.

Q So that, in 1903 and '04, prior to the date of this patent, if the Southern Pacific Railroad Company, or its holding company, the Southern Pacific Company, were desirous of obtaining lands falling under the land grant of the Southern Pacific Railroad Company, because of their petroleum values, they would obtain the best success in that matter by the employment of competent geologists, would they not?

A I presume they would.

Q And it is true, as you have stated, that the Southern Pacific Company had in its employ at that time some geologists under Mr E. T. Dumble?

A Yes.

Q Now, you entered the employ in April, 1903. What geologist did the Southern Pacific Company have beside Mr Dumble and yourself?

A Mr Owen.

Q Was that all?

A That is all that did any work in California, as far as I know.

Q Now, you stayed in the employ of the Southern Pacific Company from that date, as I understand

you, continuously until sometime in 1911? Is that right?

A Yes; until the 1st of September, 1911. [2155]

Q After Mr Owen came to his untimely death in 1909, who replaced him, if any one?

A I would not say that anybody replaced him. I don't believe that his place properly was ever filled.

Q Well, from April 1st, 1903, the Southern Pacific Company had, in California, examining prospective and probable oil lands within its land grant, three geologists, namely, Dumble, Owen and yourself. Now, how long were those three men employed continuously and exclusively upon that subject? By "Exclusively", I mean just those three?

A Well, before I answer your last question I will answer your first statement, in this manner, that Professor Dumble rarely went into the field, and when he did it was not to examine land particularly, but his business was connected with some administrative work. The only geologists in the department who examined land at all in 1903 and '04 were Mr Owen and myself.

Q Yes.

A Mr Dumble —

Q That brings it down to January 1st, 1905?

A Yes.

Q And for what length of time after that did the same force continue in that work without any change?

A I think until about the first of 1907.

Q Then there was some change made?

A Yes; there were three young men added to the force.

Q And who were they ?

A Mr W. H. Ochsner, Mr Robert Moran, and Dale Slusher.

Q That is, they were added to the force of the geological bureau of the Southern Pacific Company?

A Geological department of the Southern Pacific Company, yes sir. [2156]

Q Now, how long did Mr Ochsner remain with the geological department of the Southern Pacific Company?

A I don't remember definitely. I think it was something less than a year.

Q And Mr Moran?

A Mr Moran remained about the same length of time.

Q And Mr Slusher?

A Mr Slusher at that time remained the same length of time, whatever it was. Afterwards he was taken back, not in the geological department, but taken back for oil field work by the Kern Trading and Oil Company.

Q Now, all these men whom you have mentioned, that is, besides yourself and Mr Owen, namely Mr Ochsner and Mr Slusher and Mr Moran, while they were employed in that geological department, were they paid by vouchers similar to yourself and Mr Owen?

A Yes.

Q Issued by the Southern Pacific Company?

A Yes.

Q And all under the direction of Mr E. T. Dumble?

A Yes.

Q Who held the position of chief consulting geologist or consulting geologist?

A Yes.

Q What was it?

A Mr Ochsner's work and Mr Slusher's and Mr Moran's work was all directly under me.

Q You have testified, Mr Anderson, that you didn't believe that the gas in the wells in the Elk Hills had any direct connection or, in fact, any connection, with the occurrence of petroleum. When did you change your mind that gas had no connection with the occurrence of petroleum? [2157]

A I have not changed my opinion. I think you have misstated, a little, my testimony.

Q Well, will you set me right?

A I said the gas didn't necessarily have any connection with petroleum. Some of it has no connection; some of it may have, and some of it certainly does have some connection with it.

Q It is in the testimony here that in one well in the Elk Hills, if I am stating the record correctly, there was a flow of several million cubic feet of gas, three million cubic feet of gas per day in the well on Section 24 of 30 - 23. Would you, in your opinion, think that that gas has a direct connection with the petroleum in that well?

A Well, it evidently did, because it came out with what oil was thrown out from the well.

Q In general, however, it is regarded by oil men that gas is an indication of oil in the West Side field?

A Gas may be an indication of oil, but it is not always an indication of oil.

Q I don't know whether you understood the question, Mr Anderson.

A Well, yes, I think I did. I can complete my answer.

Q I will just state it again lest we have a long colloquy over it. Isn't it true that gas was generally regarded as an indication of oil in the wells which have been sunk in the Temblor district, Temblor Range?

A I think it is not so regarded, or generally regarded by geologists necessarily. That is to say, all geologists know that gas may occur, not in connection with any petroleum, and may have originated quite independently of any petroleum.

Q Did you not on page 114 in your paper on the Neocene deposits of the Kern River, as it is called, and the Temblor [2158] Basin, make this statement, page 114: (Reading) "Gas, which is generally regarded as an indication of oil, has been encountered in nearly all of the wells, old and new, that have been drilled into the Temblor beds"?

A Yes.

Q Was that true at the time you made the statement?

A Will you read the rest of it?

Q Well, was that part of it true?

A Yes. I would like to have the rest of it read.

Q The rest of that paragraph, you mean?

A Yes.

Q (Reading) "Considerable quantities of gas were found in both the Grace Well No. 5, and in the deep well of the Petroleum Development Company". Now, at that time you entertained the belief, did you not, that gas was generally regarded as an indication of oil?"

A It specifies here that it was so regarded by geologists.

Q No, I say you entertained the belief that it was generally regarded. I have not limited it to geologists, have I?

A Well, I want to get it clear.

A Now, I would like to develop my intention here, explain my intention.

Q Well, will you first try and give me some brief answer, and then explain afterwards?

Mr Lewers — Mr Anderson has a perfect right, as long as his answer is responsive, to answer in his own way. I bobject to the interruption.

Mr Mills — I am only trying to shorten the matter; that is all.

A I have undertaken in this chapter on Economic Geology of the Kern River Country, to pretty conclusively show that oil had not been found in the lower Neocene beds. These particular [2159] wells that you refer to here or that are mentioned in the

paragraph immediately preceding the one you read, were sunk in the older Neocene beds, not in the Kern River group at all, and I am pointing out here the reason why geologists should not consider gas as always an indication of oil, because it did not accompany oil in these instances, and might not at any time.

Q Well, but you do admit, do you not, that it was generally regarded by people as an indication of oil?

A Yes. I suppose so.

Q And being so regarded as an indication of oil, generally, the opinion would be entertained generally, would it not, that where a great amount of gas was struck, over a territory like the Elk Hills and the Buena Vista Hills, that it was an indication of oil?

A That has often been so construed.

Q And it was so construed by you, was it not, in Section 10 of 32 - 24, on the Honolulu well?

A I didn't state that.

Q Didn't you state that on examination here?

A I am afraid not.

Q Didn't you state that you measured the gas over there and that you regarded it as connected with the petroleum?

A I didn't so testify. I said I measured the gas, which I did. I think I said that this flow of gas was taken as an indication of oil deeper down in the formations — not that I took it so.

Q Now, according to the alleged copies of logs which have been introduced here in connection with

Mr Luke's testimony, by the defendants, there are indications in almost every well which has been sunk 2000 feet and better, of gas, are there not, in the Elk Hills?

A I think I don't quite remember that question. Please [2160] read it again. (Question repeated by Special Examiner.) There have been not only indications of gas, but gas, probably, in the majority of them that have been sunk below 2000 feet.

Q And that would be taken, generally — regardless of your opinion as a geologist, that would be taken, generally, I suppose, as an indication of oil?

A That would be so taken by untrained geologists or people without geological training.

Q And the discovery of 3,000,000 cubic feet of gas a day in the well on Section 24 would be taken by a trained geologist as having a direct connection with that oil which you discovered in that well?

A If it came out with the oil, as I understand it did, that would be a very good indication of oil. But the presence of oil would not need that as an indication, for the oil spoke for itself.

Q Yes. In other words, it proved that that generalization was true, at least in that particular?

A Proved that the generalization is unnecessary.

Q Yes. Well, I think you are correct about that, that the oil was discovered there and didn't need the gas to show it. That gas helped to make it a spouting well, though, didn't it.

A I would not classify that as a spouting well, except in a temporary sense; and no doubt the oil did

have considerable to do with the geyser-like action of the well.

Q By Mr Lewers — You mean the gas instead of “oil”?

A The gas, I should have said.

Q By Mr Mills — Now, you mentioned the fact, at page 5034 of this record, that gas had been issuing from the Redlands and Scottish Oil Fields Limited well in Sections 20 and 30 of 30 - 23. At that time you knew of this enormous quantity [2161] of gas coming from the well on 24, didn't you?

A I did not.

Q Did you know of gas coming from the well on Section 30?

A No, I did not.

Q Of the Associated Oil Company?

A I did not.

Q Didn't you know that three of those wells, at least, had been making gas at the time you visited the Elk Hills?

Mr Lewers — You mean in 1911?

Mr Mills — Yes.

A In 1911?

Q Yes.

A I heard that they had made a little gas, but I didn't see it. And this 3,000,000 flow of gas from the well on Section 24 hadn't been struck at that time, so I could not have heard of that.

Q Then, your failure to mention what you heard of the Associated wells over there was not due to your

desire to suppress the testimony at all; it was merely because it was hearsay? Is that it?

A Well, I didn't really recall having heard it until you asked explicitly about it.

Q Do you know Mr Joseph A. Taff?

A Yes.

Q He is a geologist, is he not?

A Yes.

Q Who is he employed by now?

A Southern Pacific Company, I believe.

Q Is he under or over Mr E. T. Dumble, officially?

A He is under.

Q Do you regard Mr Taff as a good geologist, competent man? [2162]

A I believe he has the reputation of being a good geologist in coal fields.

Q Do you regard him as a good geologist in oil fields?

A I would not like to express my opinion of Mr Taff.

Q Did you know that Mr Taff at one time was on the classification board, the Oil Land Classification Board of the Geological Survey of the United States?

A No; I didn't know that.

Q And at that time the board was composed of A. C. Veatch, a government witness in this case, as chairman, Ralph Arnold, the author of Bulletin No. 406, and Joseph A. Taff, and that that board, after consideration, classified these lands in suit, among others in Township 30 - 23, as oil lands? Did you know that, Mr Anderson?

A I knew that those lands had been classified as oil lands long after the patent was issued.

Q Did you know that they had been classified as oil lands long before the patent had been issued, by the Southern Pacific Railroad Company or the Southern Pacific Company?

A No, I did not know that.

Q Did you know, Mr Anderson, that Mr Eberlein, as land agent of the Southern Pacific Railroad Company, repeatedly warned the officers of that company and of the Southern Pacific Company, and also Mr Dumble, the consulting geologist, against the examination of unpatented lands falling within the land grant of that company, because it might make these men witnesses against the company in mineral contests thereafter?

A No; I didn't know anything about that matter, Mr Mills. I only recall having heard there was some such matter, but I had no knowledge of it.

Q That is to say, Mr Eberlein didn't speak to you personally about it? [2163]

A No.

Q He did, however, speak to Mr Dumble about it?

A I don't know.

Q Did Mr Dumble ever state that to you?

A No.

Q Where did you hear of it?

A I think I heard through Mr Owen something about it, but what it was I can't now recall.

Q Now, to refresh your recollection, possibly, I will read this statement of Mr Eberlein's, reading

from page 1836: "I objected to Mr Dumble's examination of unpatented land, without any reference to the department, for the reason that I was fearful that it might charge us with notice of the mineral character of the lands. Mr Dumble didn't give us any information at all, never did, didn't cooperate in any sense at all, and I heard or had reason to believe that a good deal of examination was going on of granted lands and such of those as were unpatented, and believed that it was very bad policy to examine before patent issued, especially without any reference to the land office." Now, does that refresh your recollection at all as to what Mr Owen told you?

Mr Lewers — I object to that question, because I think Mr Mills, in all fairness, you ought to call attention to Mr Eberlein's further testimony that that all took place long subsequent to the granting of the patent in this case.

Mr Mills — He didn't say anything of the kind. He made that statement without any reservation of any date, and you know it.

Mr Lewers — No; I don't know it. I know you are entirely wrong, and I object to the question on the ground that it is indefinite and unfair, and it is not cross-examination of any matter brought out in the direct examination of this witness. [2164]

Q By Mr Mills — Does that refresh your recollection of what Mr Owen told you, Mr Anderson?

A I don't know that it does. I think that Mr Owen told me that — I don't know when it was he told me this. I think, though, that it was after the

patent had been issued for the lands in 30 - 23, that Mr Eberlein was opposed to our doing any work on the grant lands — I mean to say unpatented lands.

Q Yes. Now, don't you recall that he made protests to Mr Dumble, or that department, prior to the issuance of the patent in 1904, in the fall of 1904, concerning the examination of unpatented lands by the geological force of the Southern Pacific Company?

A No, I could not recall that anything was said by Mr Eberlein prior to 1904, prior to the first of 1905. I think my first acquaintance with the matter was through Mr Owen, and I think it was subsequent to 1905. I don't recall the date or the occasion, but I do remember that he told me some such thing.

Q By Mr Mills — Now, don't you recall, Mr Anderson, that you heard of this either through Mr Owen or Mr Dumble prior to the 23rd day of September, 1904, that Mr Everlein believed that the continuance of that custom of examining unpatented lands would bring the company into trouble, and a mineral contest thereafter?

A No, I don't think I heard that at that date, Mr Mills.

Q Well, whether you heard of it or not at that date, did the conversation which you had with Mr Owen indicate that he had knowledge of it prior to that date?

A No, I hadn't suspected that. I don't think so. What conversation with Mr Owen do you refer to?

Q The conversation you are speaking about which you had with him; didn't he refer in that conversa-

tion to the warnings which had been received prior to September, 1904? [2165]

A No, he did not.

Q Well, it was during the year 1904, wasn't it, that he referred to?

A I don't think so. I think it was some later date than that.

Q Now, are you positive one way or the other about it?

A Yes, I am. Come to think of it, I —

Q Let me call your attention —

Mr Lewers — Wait a minute. He hasn't finished his answer.

A I believe it was in some connection, I can't recall definitely, but I think it had some connection with the employment of these three men that I spoke of before.

Q By Mr Mills — I don't want to interrupt your thought, Mr Anderson, but let me ask you this question: Do you recall that in 1904 there was printed at the instance of Mr Eberlein lists of lands of the Southern Pacific Railroad Company, which had the following footings: "Patented Lands, Unpatented — Unselected", then "Unpatented Selected Lands, Unsurveyed — Primary and Indemnity, Unpatented — Indemnity Selected and Unselected"? Do you recall those lists?

A No, I do not. I recall some maps on which there were some classifications of land, and a legend that described lands of these classes.

Q Those that I have just named?

A Yes, but the date of that map I can't fix at all. I think it was probably considerably subsequent to 1904.

Q Now, wasn't it a fact that those were printed in 1904 and furnished to the department?

A I couldn't say.

Q In which you were working?

A No, I didn't see them.

Q And didn't you go over yourself and get lists of land [2166] from Mr Eberlein under those very headings, at the instance of Mr Dumble?

A No, I do not recall ever having seen a list of lands. I do recall having seen some maps. When they were prepared, I don't know.

Q They were on yellow paper, weren't they, as you recall it now?

A No.

Q Were you traveling at that time on an annual pass, in 1903 and '04?

A Yes.

Q Of the Southern Pacific Company?

A Of the Southern Pacific, yes.

Q Now, do you recall the tract or plat books in the land department of the railroad company, Southern Pacific Railroad Company, which have been marked by Herman Coke, "Reserved for Oil", including unpatented indemnity selections, as well as patented ones, marked "Reserved for oil"?

A No, I do not. I did not examine the books of the land department very often, if ever. They often

sent maps over to the geological department. By whom they were prepared, I don't know.

Q Well, didn't you ever go over there and ask to see the tract or plat books of the land department which has been marked "Reserved for Oil", including those lands, unpatented and indemnity selection, in 1903 and '04?

A I never asked about any unpatented lands. I have been in the land department sometimes, for certain purposes; usually to get blank maps. I never asked about any unpatented lands.

Q I didn't ask you whether you asked about any unpatented lands, Mr Anderson. I asked you if you called for the books which were marked, "Reserved for Oil"? [2167]

A No, I did not, that I recollect.

Q And which include among other lands also unpatented indemnity selection lands?

A I don't think I ever asked to see the books.

Q Do you recall that tract book that I am referring to now?

A Why, I recall the fact that they did have some books, but I don't know exactly what book you are referring to.

Q Well, do you recall the fact that they had in the office there a tract book headed "Reserved for Oil"?

A Not when Mr Eberlein was there, I can't recall.

Q Well, can you recall at any time?

A No, I do not. The only thing I recall is a large map that Mr McAllister had after Mr Eberlein's

time. Mr McAllister had a large map on which he had marked lands that were reserved for oil.

Q Now, referring to that book, did that contain as well other lands as the unpatented indemnity selection lands?

A I couldn't say about that; I don't know. I never examined it sufficiently to make any statement in regard to what it did contain, except the lands marked "Reserved for Oil". I understood that they had been so marked.

Q Was that marked in pen or pencil, "Reserved for Oil"?

A It was marked with colored pencil, I believe. As I recall it, he had written with red pencil the letter "O" on the sections that were to be reserved for oil.

Q Do you remember your department, that is the geological department, being furnished with any lists or plats during the time that Mr Eberlein was — well, during the time previous to January 1st, 1905, containing the headings, "Patented Lands", or "Unpatented Unselected Lands", "Unpatented Selected Lands", "Unsurveyed Primary and Indemnity Lands", "Unpatented Indemnity [2168] Selected", and "Unselected Lands"?

A You are asking about lists?

Q Plats or lists.

A Plats or lists. I do not recall having seen any such lists or plats, Mr Mills, prior to January 1st, 1905.

Q Now, when you stated on direct examination

that you searched the geological literature for some reference to the Elk Hills in 1903 and found none, did you want it to be understood or the impression to be conveyed that no one then knew the geological importance of those lands for petroleum?

A No, I wished it to be understood that so far as the literature was concerned, no writer had ever regarded it as prospective oil lands, for, while they had often referred to other prospective oil fields, other fields, rather, that they considered prospective, and in which nothing has yet been developed, they did not refer to the Elk Hills.

Q By "literature", you mean published papers, don't you?

A Yes.

Q You don't refer to private reports at all?

A I think I could include private reports in that also.

Q Well, don't you know as a geologist for the Southern Pacific Company, that Dr John R. Scupham, a former geologist for that company, as early as 1887 made a report on those very hills to the Southern Pacific Company?

Mr Lewers — A written report?

Mr Mills — Yes sir.

Mr Lewers — Why, there is no Dr John R. Scupham; he is not a geologist; he testified he was not. He testified he never made any report at all, so there is no foundation for this question. I object to it as not cross-examination.

Mr Mills — The record will bear out who Mr Scupham is, Mr Lewers. [2169]

A No, I never heard of Mr Scupham's report, if he made one.

Q You didn't refer, either, to an extensive report made by Mr Owen to Mr Dumble including those hills?

A I have no knowledge of any such report, if he ever made one.

Q You wouldn't expect, would you, a railroad geologist, interested in urging the unlawful selection of mineral land under an agricultural grant, to set forth in a publication or in any publication his reasons geologically for such selection, would you?

A I would like to hear that question. (Last question read by the reporter.) Why, I presume if he were a railroad geologist trying — or urging the company to select these lands unlawfully, probably he would not explain it very fully in public statements.

Q And such geologists as were not concerned in urging the fraudulent and unlawful selection of those lands, and who possibly might have published some papers bearing generally on the geology of that region, would not ordinarily set forth the economic features of their work, so far as they pertained to their private employment?

A I presume not.

Q Now, it is in evidence here, Mr Anderson, that Mr Owen recommended to the Southern Pacific Railroad Company — I should say reported to the South-

ern Pacific Railroad Company, the petroleum-bearing character of the lands in this suit; it is further in evidence that prior to the date of the patent he told several witnesses about that report, and to one of them he made the statement that if the railroad company selected these lands in suit, it would be committing a fraud upon the government of the United States. Now, you would hardly expect, if that [2170] were true, that in March, 1903, meeting Mr Owen for the first time, not even having heard of him before, as you say, that either he or Dumble would confide their secret purpose of urging the selection of these lands in suit because of their mineral values to an almost complete stranger?

Mr Lewers — I object to the question as being based on an assumption of fact contrary to the record.

Mr Mills — Page 452 of the record, in the testimony of Samuel P. Wible: "Did you ever discuss with Mr Owen the selection of those lands that I have described specifically in 30 - 23 of the railroad company, and when?" (Meaning the lands in suit.) "A—Yes sir; I did. "Q—What date was that? Was it before they were selected? They were selected in 1904. A—Just about the time of the selection. Q—What did he say about it? A—We were at that time discussing the mineral possibilities of the hills for fuller's earth, especially. That is the time he showed me the fuller's earth. He said if the railroad selected those lands they would be selecting mineral lands. In other words, they had no right to select them, as

he had reported them as mineral land." And then the further statement on page 436: "Q—Had he examined any lands in the Elk Hills in behalf of the Southern Pacific Railroad Company? A—Yes sir, he had." Now, there is a statement somewhere with reference to his reporting to Dumble on that subject, and I can't find it just now.

(The question is read by the reporter as follows: "Q—Now, it is in evidence here, Mr Anderson, that Mr Owen recommended to the Southern Pacific Railroad Company — I should say reported to the Southern Pacific Railroad Company, the petroleum-bearing character of the lands in this suit; it is further in evidence that prior to the date of the patent he told several witnesses about that report, and to one of them he made the statement that [2171] if the railroad company selected these lands in suit, it would be committing a fraud upon the government of the United States. Now, you would hardly expect, if that were true that in March, 1903, meeting Mr Owen for the first time, not even having heard of him before, as you say, that either he or Dumble would confide their secret purpose of urging the selection of these lands in suit because of their mineral values, to an almost complete stranger?")

A No, assuming that these statements are true, I would not expect Mr Owen to confide, or Mr Dumble to confide that to a perfect stranger; nor would I expect them to confide it to me at the time I met Mr Owen in 1903. I would like to say, though, that subsequent to that time, subsequently to that time, and

during 1903 and '04, I traveled over that country with Mr Owen a great deal, and camped with him, and talked about every phase of the matter or matters that interested us, pertaining to the oil districts throughout; and if he had any such thing in mind, I think he would have given me some information in regard to it.

Q You think that if he had the fraudulent purpose of urging the selection of these lands, that he would have confided to you that purpose?

A I don't know; I don't think he would have much warrant for confiding to me any fraudulent intention in that matter, or any other, if he had any.

Q Now, did you know, then, that is at the time you entered the employ of the geological department under Mr Dumble, that the only tracts of land falling within the indemnity limits of the grant to the defendant Southern Pacific Railroad Company which had been surveyed, and were open and unselected in the entire McKittrick, Sunset and Midway Petroleum districts, were these very lands in suit? (The last question is read by the reporter.) [2172]

A No, I didn't know that.

Q You say that you have never made any written report upon lands you examined while employed by the Southern Pacific Company in the petroleum fields of Kern county, as to whether they were proven oil lands or prospective oil lands, prior to 1905; is that correct, but that you reported to Owen & Dumble verbally?

A I would like to see the copy of my statement in that matter.

Q (Handing to witness) Near the bottom of the page, Mr Anderson.

A I think I might amend this statement to this extend: That I do remember writing for Professor Dumble a statement of the general stratigraphy of the districts, but it had no reference to lands that should be reserved or applied for; it was simply a statement of the geological factors of the district.

Q Now, apart from that, such reports as you made which were written were made subsequent to January 1st, 1905?

A As far as I remember.

Q Now, what reports did you make after January 1st, 1905?

A I may not be able to recall all of them. There was a report written in, I think it was November, 1905, which was a matter of testimony, however. It was written in connection with a trip I made with Mr Owen around the southern end of the valley, and I think that that was in November, 1905.

Q That was a written report?

A That was a written report. It has been alluded to in the testimony, and I have forgotten the date of it now, but I believe that was the date.

Q Now, what other reports did you make subsequent to 1905?

A I think I made a report sometime in 1907, Mr Mills, the original letter of which was presented to this — [2173]

Q Which was introduced here, you mean?

A Introduced here in evidence.

Q You refer to Defendants' Exhibit, meaning the letter which you wrote to Mr Dumble concerning some lists of lands?

A Yes.

Q And as to which the list of tracts didn't accompany the letter in the Exhibit?

A Yes.

Q Any other reports that you made?

A I made a good many reports subsequent to that time, but I can't recall them; that is, I can't recall the reports bearing upon this territory.

Q Did you make, at the instance of the geological department of the Southern Pacific Company, an examination of any or all of the following lands; Sections 5, 7, 9, 11, 13, 15, 23, 25, 33, 21, 27 and 35 of 30 - 22? Do you want a map?

A Please. (Refers to map). I don't recall any such report, Mr Mills. I may have done it.

Q I mean did you make any examination of those lands?

A I did make examination of those lands; yes.

Q And you don't recall making the report on them?

A Only a verbal report.

Q Now, are you quite sure you didn't make a written report on those very lands?

A I would not be positive that I didn't make a written report, but I don't recall any at this time.

Q And you would not be positive that you didn't

make a written report on them prior to the 1st of January, 1905?

A I wouldn't be positive that I didn't make a written report of that prior to January 1st, 1905, as I stated before. That is what I tried to state before. But I don't recall any such report — written report including all or any part of those [2174] lands.

Q Did you make a report on Section 31 of 30 - 23, in connection with the following lands: Sections 5, 9, 15, 21, 23, 25, 27 and 35 and the east half of Section 7, in 31 - 23?

A I think whatever report I may have made covering these lands in Township 31- 23 included also Section 31 of 30 - 23.

Q Now, are you ar all positive that you did not make that report prior to December 12, 1904, in written form?

A While I have not admitted making any report at all, I say I may have made such report but I don't recall any such report. I recall reporting on these lands, but I believe that it was altogether subsequent to 1904.

Q Now, wasn't it prior to the 1st day of August, 1904, that you made report on those lands?

A I don't think so.

Q Did you make a report, written report, on the northeast quarter of Section 15, on the Northeast quarter of Section 23 and the northeast quarter of Section 25, of 31 - 22?

A I probably did include those sections in reports

that I have made. I think I did report on those sections.

Q Now, did you not make that report prior to the 1st of August, 1904?

A I don't think so.

Q When did you make the examination of those lands?

A I began the examination of those lands in March, 1903, and I went over those lands, or — Yes, I think I visited those lands several times during 1903 and 1904; that is, the lands in Township 31 - 22.

Q Yes sir. Did you make examination and report on Sections 31 and 33 of Township 31 - 24?

A Sections 31 and 33?

Q Yes. [2175]

A The only examination I made of those sections was on the occasion of my camping on the lake in 1903, September, 1903, and I don't think I went onto the lands at all and I am sure that I didn't report upon them.

Q Now, did you make examination of Sections 3, 11 and 13 and the north half of Section 5 in 32 - 23?

A 32 - 23?

Q Yes, 32 - 23.

A Yes; I did.

Q When did you make the examination and report on that land?

A I can't recall. I think all of these lands that you have mentioned so far were included in the report I made in 1907.

Q And you made no written report prior to that time on those lands?

A Not that I recall now. I don't believe that I did.

Q Now, do you recall making examination of Sections 3, 5, 11 and 13, in 32 - 24?

A Yes; I made examination of these lands in September, 1910.

Q When did you make your report on them?

A I made a verbal report about that time.

Q 1903?

A Yes. I don't think I made any written report until very much later.

Q Now, isn't it a fact that all the lands which I have described to you, Mr Anderson, were reported upon and examined prior to the 1st day of August, 1904?

A 1st day of August, 1904? I presume they were reported on, but I didn't report on them, to my recollection now, at all. [2176]

Q Then, if any one reported upon them, it was some other person in the geological department beside yourself?

A Yes. If I made any report upon them, I am disposed to think that that report consisted of a map — a map only — as far as any written or printed matter was concerned.

Q What was the nature of the map that you made?

A I believe that I did make some maps showing the lands that I thought ought to be taken over by

the Kern Trading and Oil Company under lease. Now, the date of those reports or maps I can't give you definitely.

Q Did you recommend the inclusion in a lease for oil purposes from the Southern Pacific Railroad Company to the Kern Trading and Oil Company of Section 31 of 30 - 23?

A I did.

Q Did you examine that to determine whether it was prospective oil land?

A I did.

Q And did you determine that it was?

A Yes. Its position on the Buena Vista anticline gave it a prospective value, in my judgment — part of it, at any rate.

Q That section of land is in the Elk Hills, is it not?

A No.

Q Section 31 is not Elk Hills?

A It approaches very near, in fact, comes onto the Buena Vista anticline, the southwest corner, and whatever value I gave it as prospective oil land was due to its proximity to the Buena Vista anticline.

Q Is not a portion of that section in the Elk Hills?

A I think by the topographic map it appears. I think it is a fact that the northeastern part of the section rises a little on the slope of the Elk Hills. [2177]

Q And it is in an unfavorable position with reference to the anticline of the Elk Hills, is it not?

A Yes; I think it is.

Q If that land was prospective oil land in 1903,

all the lands in this suit were prospective oil lands at that date, were they not?

A Well, perhaps so.

Q And if they had been patented at that time you would have recommended them for lease to the Kern Trading and Oil Company?

A Perhaps I would. I hardly think that I would have done so, because I didn't have such an opinion of them.

Q You hadn't made any examination of them, had you, at that time?

A Except such examination as I could make by studying the outcrop of the formations along the flanks of the Temblor Range. The position of the Elk Hills with reference to that was not favorable, in my judgment.

Q Now, in your map which you have been examining there, and which is known as Defendants' Exhibit No. 19, you show the anticline of the Buena Vista Hills tied onto the McKittrick anticline, don't you.

A Yes.

Q And yet you have failed to tie on the Elk Hills anticline to the north McKittrick anticline. Why was that?

A Well, I don't think it is as closely connected with the anticline in the McKittrick Hills as the Buena Vista anticline is with the McKittrick anticline.

Q Is not there better evidence of the continuation of the Elk Hills anticline onto the north McKittrick

anticline than there is from the Buena Vista anticline onto the McKittrick anticline? [2178]

A No; I don't think so.

Q And does not that anticline of the Elk Hills extend on through up as far as Gould Hill, clear into the Temblor Range?

A No; I don't think it does. The anticline north of McKittrick in the McKittrick Hills I believe can be traced up into the Gould Hills, with more or less confidence, but I cannot follow the anticline in the Elk Hills into the McKittrick Hills at all.

Q Into the North McKittrick Hills is what I am talking about.

A Yes; North McKittrick Hills. I have tried to follow the anticline in the North McKittrick Hills to the southeast, on the theory that they were continuous, but I never could find that they were continuous. The anticline in the North McKittrick Hills plunges where it reached the railroad and apparently disappears altogether. The folds that are in evidences in the Elk Hills do not seem to have any close connection with it at all.

Q It is a fact, is it not, that the anticline has been ties on by Dr Arnold, to the North McKittrick anticline, and traced as far as Gould Hill, and even beyond?

A It does not appear so on this map.

Q Well, it appears so as much as the Buena Vista anticline does to the McKittrick anticline, doesn't it?

A No. Then, besides, I think that the report on this map is not above criticism.

Q Well, passing for a moment any criticism you may have upon the map, was your failure to leave out the supposed anticlinal relation in North McKittrick with the Elk Hills due to the fact to better support your evidence in this case?

A No. You are referring to my map, are you?

Q Yes; Exhibit 19. [2179]

A No; I did not include any reference to the McKittrick anticline — that is to say, the anticline in the McKittrick Hills, north of McKittrick Valley, because it was in no way involved in this case and it was not genetically connected with the Elk Hills in any way.

Q Well, don't you know that the anticlinal structure continues right through and can be traced from the Elk Hills clear through to Gould Hill?

A No; I don't. There is an anticlinal structure running through the North McKittrick toward the Gould Hills, but in the other direction it plunges and is not continued in the Elk Hills at all; it has no connection with the anticline of the Elk Hills.

Q You know that it is in evidence here, don't you, that wells have been sunk in that anticline on the North McKittrick?

A Yes.

Q And produced oil?

A Well, not right on the anticline.

Q And that they had some connection with this

case, with the anticline found in the Elk Hills. Now, why do you say it had no connection with this case?

A I don't know what has been put in evidence, except what I myself have put in.

Q Referring to your map there, is Section 13 or 30 - 22 in the Elk Hills?

A Well, no. Well, it is on the western slope of the Elk Hills.

Q How about Section 25?

A It is similarly situated.

Q And the northwest of Section 17 of 30 - 23? Where is that? Is that in the Elk Hills?

A Yes; that is in the Elk Hills. [2180]

Q And the northwest quarter of Section 19 in 30 - 23?

A I think that is in the Elk Hills.

Q You reported on all those parcels of land, did you not, examined them?

A I reported on all the lands involved in this case, and neighboring lands, in 1911.

Q Now, I mean in 1903 and '04 didn't you examine and report on those sections of land that I have just described to you?

A Not that I recall. I said I didn't recall making any report on those lands in 1903 and '04.

Q Well, did you make any verbal report?

A I think not, because I was not within the limits of Township 30 - 23, unless it was on Section 31, prior to 1911. Whatever reports I may have made on 30-22 may have been verbal reports and connected with a map. I don't recall making any such.

Q How is it that you for two years, and up until almost precisely the day on which this patent was issued, you made only verbal reports and immediately thereafter you commenced the making of written reports to the geological department. What was the reason for that change?

A You will have to search somebody else.

Q Well, would you suggest searching Mr Dumble?

A He did not ask me to make any written reports, I believe, on any land, farther than preparing maps for him, prior to 1905. As I recall now, the first written report accompanied with any list that I made was in 1905, following a trip I made around the south end of the valley.

Q But you did make a report, you say, subsequent to 1905, written report, on that trip. Where is that report now?

A Subsequent to — [2181]

Q January 1st, 1905.

A I made a report on the results of this trip that we made around the south end of the valley. I think that was in November, 1905.

Q Now, where is that report now?

A I have a copy of it here, I believe, somewhere. I haven't it. I have seen a copy, I believe.

Q That was in November of 1905?

A Yes.

Q That was not the report that you refer to of 1907, then?

A No.

Q Where is the report of 1907 which you made for some land?

A Why, the letter accompanying the report was presented in evidence. The lists accompanying that report are held in abeyance because we didn't have the proper lists.

Q Well, but where is the report? Is the letter the report?

A The letter is the report connected with the lists, that is, the report included the letter and the lists.

Mr Lewers — Mr Mills, I have the carbons, but not the originals, and I am endeavoring to find them.

Mr Mills — Well, I want to understand about it.

Q The lists, then, indicate on their face the character of the work, the recommendations?

A Yes sir.

Q So that the lists really are the report?

A Yes.

Q Taken in connection with the letter?

A Yes.

Mr Mills — At this point, I desire to announce on the [2182] record that that is all for the present; but I am waiting for the arrival of some papers and shall reserve the right of further cross-examination if I can get the papers I am asking for.

Mr Lewers — When?

Mr Mills — As soon as I get the papers, at such time as is convenient for Mr Anderson and yourself.

Mr Lewers — That would have to be at some indefinite time in the future?

Mr Mills — Yes.

REDIRECT EXAMINATION  
OF  
FRANK M. ANDERSON

By Mr Lewers:

Q Mr Anderson, how long were you in personal contact with Professor Owen?

A Just what do I understand by that question?

Q That is, during how many years and how closely were you associated with him in your work?

A Well, I was associated very intimately with him in all my work, particularly around the oil fields, from March, 1903, until September, 1911. We often talked together and discussed the matter together. We have traveled together, camped together, and had every opportunity to get acquainted with each other's views and I felt that the relation was rather intimate between us two.

Q Do you remember what the date of Mr Owen's death was?

A I think it was in December, 1910, wasn't it?

Q Well, then, when you stated a moment ago that you were associated with him until 1911, that was an error?

A That was a mistake, I mean up to the time of his death.

Q Now, during all that time, did he ever indicate to you [2183] by hint or otherwise the existence of this fraudulent scheme that Mr Mills has referred to?

A. No.

Mr Mills: That is objected to, because it has been gone over once on direct examination.

A. He did not.

Q. By Mr. Lewers: Now, I understood you to testify on cross-examination that you went down there one time for Mr. Crandall for the purpose of showing him lands that he might take up for oil purposes; is that correct?

A. Yes.

Q. Did you at any time indicate to him any portion of the Elk Hills as prospective land that he should take up?

A. No, I did not.

Mr. Mills: That is objected to as immaterial, because the witness stated that he went down there and went over some lands that Dumble had.

Q. By Mr. Lewers: What was your purpose in going down there; was it confined to the lands Mr. Mills has indicated or not?

A. No, it was not. Mr. Crandall endeavored to get me to do as much as possible under the terms of his agreement with me, and he included everything in Kern County. I had an agreement with Mr. Crandall something like this: That I was —

Mr. Mills: Now, I object to this, because I think it is immaterial.

Q. By Mr. Lewers: You may complete your answer.

A. I think it is material. I had an agreement with Mr. Crandall to this effect, that I —

Q. By Mr. Mills: Was that agreement in writing, Mr. Anderson?

A Yes.

Mr. Mills: Well, I object to it on the further ground that it is hearsay of a written instrument.  
[2184]

Q. By Mr. Lewers: You may answer.

A. I can furnish the agreement. But I was to have a certain interest with him in whatever he and his people would take up, by my recommendation, in Kern County. He made a point of putting that in, whatever he should take up or his people should take up at my recommendation in Kern County, I should have a part interest in it.

Q. Now, what have you to say, Mr. Anderson, as to the relation of the Scottish well, the Redlands well, and other wells that are situated in the Elk Hills, in reference to the anticline existing there, whether or not they have been sunk in positions where oil would have been discovered had it been there? You may refer to any map you have.

Mr. Mills: I object to the question, because it seems to me it ought to have been covered on direct examination.

A. Why, I should say that the Redlands Oil Company's well and the Scottish well —

Q. By Mr. Lewers: Those are the only ones I mentioned. Were there any others that you know of?

A. — were sufficiently near the axis of the anticline to have obtained oil if there was any in it.

(The last answer is read by the reporter.)

Q. Now, Mr. Mills has made a number of assumptions in regard to the thickness of oil-sands in various wells as indicated by logs. Now, directing your attention particularly to the well in Section 30 of 30-24, Associated Company's well, do you find in that log a thickness of sand exceeding or anywhere near equaling 500 feet below the 2700-foot level?

Mr. Mills: Is that a log that is introduced in evidence you are examining? (Addressing the witness.)

Mr. Lewers: Yes.

Q. By Mr. Mills: Is that log in evidence that you are [2185] examining now?

The Witness: This particular log is not in evidence. This is a graphic copy of the log in evidence.

Mr. Mills: I object to your testifying from a log that is not in evidence.

The Witness: I have compared this with the typewritten one that was introduced, and this was made under my special direction.

Q. By Mr. Lewers: You may answer.

A. There is a streak of oil-sand represented in the log a little below 2700 feet; it is represented as having a thickness of 9 feet. This is the only body of sand that is represented in the log below 2700 feet.

Q. Now, referring to the well in Section 26, where, as I recollect it, the 159 feet of oil-sand, or 159 feet of sand showing oil appears near the bottom of the well, could that sand, if it is assumed to be oil-sand of that thickness, have any stratigraphic relation to the assumed oil-sands that Mr. Mills spoke of at a depth of 2700 feet?

A. No, I think not.

Q. Do you find, by examination of the other logs in the vicinity, any thickness of sands corresponding to this at the bottom of the well in 26?

A. No, I do not. This is the only log in which there is represented any such thickness of sand, any sand at all that is called oil-sand that exceeds a thickness of 9 or 10 feet, as I recollect it.

Q. Now, what have you to say as to the ability to determine in all cases while drilling, the actual presence of true sand? I am not speaking of its oil character now, but its sand character.

A. It is often difficult to determine the character or quantity of sand in drilling; even drilling with a standard drill one may easily make mistakes as to the thickness of sand, and may make [2186] mistakes also as to the character of the sand or its productivity. The mere drilling of a well gives you no index at all as to the productive capacity of the sands that you encounter.

Q. Now, have you in mind any instance where you have been able to, by other observations, check a log report of sand in a well, any of the wells that you have personally observed or been connected with?

Mr. Mills: That is in this field here, you mean?

Mr. Lewers: Anywhere in the San Joaquin.

(Last question is read by the reporter.)

A. You mean have I been called in to pass judgment upon purported sands?

Q. Yes.

A. Yes.

Q. Where?

A. In the Lost Hills.

Q. Well, will you state fully what you observed there, what the report was upon which you were called in?

A. I recall Natomi well No. 1, situated in Section 5, of Township 26-21, near the north line. At a depth of about 3400 feet the sand was reported that was said to have continued for some distance. This sand was —

Mr. Mills: I don't want to keep objecting, Mr. Anderson, but that appears to be objectionable on account of the fact that it is hearsay.

The Witness: No, it was not hearsay.

Q. Didn't you say it was said?

A. Yes.

Q. By Mr. Lewers: Who had charge of the well?

A. Mr. W. L. McLean, superintendent of the Universal Oil Company.

Q. What connection did you have with it? [2187]

A. Geologist of the company.

Q. And to whom were those reports made that appear in the log?

A. They were made to the president and manager of the oil company in San Francisco.

Q. Did they come to you in the course of your official business as geologist of the company?

A. They did.

Q. And what, as you recollect it, thickness of sands did they show?

A. Well, at the time of their report they had

struck oil-sands. I was in San Francisco, and they stopped soon after they reached the top of the supposed sands. Mr. McLean telegraphed into the office that they struck oil-sands, and that the well was flowing or had flowed, in fact had spouted and had thrown oil over the roof in the derrick, and almost to the top of the derrick. He said in fact the oil would have gone over the crown block, if it hadn't been for a strong wind blowing.

Mr. Mills: Now, that oil appears to be hearsay, and I move that it be stricken out.

Q. By Mr. Lewers: You may proceed.

A. Very soon after this I went down to the property of the Universal Oil Company and went to see this well, and I asked to see some of the sand. Mr. McLean apologized to me—

Q. Well, did you see any of the sand taken when you conversed with Mr. McLean?

A. I saw what he had taken to be sand. He had discovered himself that it was not sand.

Q. What examination did you make of it?

A. I made an examination of it with my pocket lens, as he had also. It resembled sand very much, indeed, and if I had been present when the material was brought out of the well, and had no means of examining it except by the unaided eye, I think I would [2188] have called it sand, particularly on account of its behavior and the fact that it contained oil. Examining it with a pocket lens which I always carry (showing lens), it was not sand at all.

Q. What was it?

A. It was hard silicious shale that had been ground up by the bit in the process of drilling. It resembled sand so much superficially that we all considered it a good joke, and we talked of it extensively. Now, the further drilling of this well, Natomi No. 1, showed about the same material from 3400 feet down to 3800 feet.

Mr. Mills—Mr. Lewers, without interrupting, it is understood my objection goes to all this for its immateriality and for other reasons that I have given?

Mr. Lewers—That is agreed.

A. In the meanwhile the well spouted at intervals, and I advised putting it on the pump and trying out its capacity. The well was put on the pump and the fluid all pumped out of it, pumped down to a level of 2000 feet, and that is as far as the pump was put down in the well, and it failed to make any other flow, until subsequently some two weeks after it did make another spurt. There is also another well that is owned by the Universal Oil Company that had almost a similar record, similar showing.

Q. Do you know of any other illustrations of reported sand that you have been able to determine was not sand, anywhere else?

A. Yes, yes I have. The Associated Oil Company drilled a well on Section 27. I will have to guess at the township.

Q. The location is not material, Mr. Anderson. I want you to give it as briefly as possible.

A. Well, it was north of Carneros station, pumping station, and at 2700 feet and at 3100 feet they reported oil-sands. An examination of the material proved that it was not oil-sand, although they did find some oil. The well has since been abandoned. [2189] Also the Lindsey Oil Company on Section 7 of Township 27-21 drilled a well to the depth of 3600 feet and more, and reported oil-sands. That proved to be nothing but shale that was crushed up by the drill.

Q. Now, as I recollect it, in answer to one of Mr. Mills' questions, you stated—I may be mistaken in this—that the Scottish well and the Redlands well and certain other wells that Mr. Mills mentioned, were in an unfavorable position for getting oil. What did you mean by that?

A. I meant that I regarded all of that land in the Elk Hills as unfavorable for getting commercial quantities of oil.

Q. Now, dismissing from consideration any assumptions of fact that Mr. Mills may have made as a basis for his questions, and taking all of the conditions in there as you understand them from your own observation, and from the assumption that the logs here represent approximately the correct situation, in your opinion is that prospective oil land today?

Mr. Mills—That is objected to because the witness has already stated that in his opinion, basing his answer on the assumption of the correctness of those logs, that it was not prospective oil land.

A. I would like to say this: That nothing has yet been proved of commercial value in that territory, and I see no reason for changing my original idea in regard to these, that they are not oil lands.

Mr. Mills—Now, I object to that statement and move that it be stricken out unless the witness means that in answer to your question. Do you intend that as an answer specifically to the question, Mr. Lewers?

Mr. Lewers—It strikes me it is very responsive.

Mr. Mills—Well, he stated a fact that it has never been proved there. He is assuming, I understand, that these logs are [2190] correct.

The Witness—And the information that I have otherwise is correct. I made this in response to Mr. Lewers' question, for I wanted to place myself in the clear.

Q. By Mr. Mills—Well, your answer, as I understand it, is based on the exhibits offered in the case here?

A. Not altogether.

Q. And on what you have testified to?

A. Yes.

Q. Of what you know about it?

Q. By Mr. Lewers: Now, basing your answer—

Mr. Mills—Just a moment. I want to know whether that is true or not. If it is not, I want to examine him on it. If it is true—

Q. I want to know whether it is true or not at this point.

A. It is based on my examination of these records, and upon my examination of the territory, and upon all that I know in regard to the case altogether, through a long period of time.

Q. By Mr. Lewers—Now, in answer to one of Mr. Mills' questions, I believe you stated that the Southern Pacific Railroad Company's land department had some men employed who had some knowledge of geology; do you remember any man that was an employee of that company that was a geologist? I mean of the land department of the Southern Pacific Railroad Company.

A. Really, I was not very well acquainted with them. I had a speaking acquaintance, only, and I never talked to them extensively about geology. They did go out and report on land, grant land. It seems to me there was a man by the name of Hill, and another one by the name of Coe—wasn't that it, Coe?

Q. Well, Coe was at a later time than 1903 and '04, was he not?

A. Oh yes, and as far as I know, Hill was, too. I remember [2191] a conversation with Mr. Hill—

Q. Well, we don't care for the conversation.

A. Well, it is only to show the character of work the ydid. This is the only conversation I had.

Q. By Mr. Mills—You don't expect to put in this conversation which is hearsay even when your own counsel objects, do you?

A. No.

Q. By Mr. Lewers—Do you know of their having

any geologist who made an examination of that territory down there in 1903 and '04?

A. I do not. The only geologist that had made any examination of this land that I know of was Mr. Owen. He had been on the land in 1903 and '04, and I don't know that he made any report except a verbal report, to anybody, and I always believed that he did not consider it oil land.

Q. Now, Mr. Anderson, Mr. Mills asked you if you thought it had any value for any other mineral substance, I think. I don't recollect that there was any answer to that question.

Mr. Mills—I don't think I asked him that question.

Mr. Lewers—I think you did.

Mr. Mills—No, I did not.

Q. By Mr. Lewers—In your opinion, are the Elk Hills of any value for mineral purposes?

A. Not that I know of.

Q. Is there any fuller's earth in there?

A. I think not, not as I understand Fuller's earth. Fuller's earth is a commercial term. My investigation in there convinced me that there was no deposit of material that could properly be called Fuller's earth, or that had any commercial value as such. I didn't see any material in there that would fulfill the purpose for which Fuller's earth is used, as far as my investigation went. [2192]

Q. And when did you come to that conclusion?

A. In 1911.

Q. Was there anything known, as far as your knowledge was concerned, in 1903, of any gas in the Elk Hills?

A. Please read that question.

(The last question is read by the reporter.)

Q. The gas that has been referred to in these various logs, was there anything known about that in 1903 and '04?

A. Why, certainly not, for the wells were not drilled at that time.

Q. Mr. Mills asked you, Mr. Anderson, whether or not in 1904, if the land now in suit had been patented, you would have included it within any map or recommendation you made for a lease to the K. T. & O. Company. Now, after the patent was obtained, did you ever include it in any recommendation for a lease to the K. T. & O. Company?

Mr. Mills—That is objected to as wholly immaterial, because there is no evidence here that there was ever any lease subsequent to the lease that we introduced in evidence, and as to which Mr. Eberlein testified the piping charges were sent in to the land department, namely, the lease of August 2nd, 1904; for the further reason that it is wholly immaterial.

Mr. Lewers: I will say that by demand of the counsel for the Government, the lease of December, 1907, the Kern Trading and Oil Company lease was produced and submitted to counsel for the Government for their inspection, and counsel knows that such

lease is in existence, although it was not put in evidence by them.

Mr. Mills—It was never produced, to my knowledge, Mr. Lewers. I have never seen it, and didn't know of its existence.

Mr. Lewers—Well, that is a very surprising statement, as I personally handed it to you, and Mr. McCormick, when you were sitting together at the counsel table in San Francisco. [2193]

Mr. Mills—You handed me what purported to be a copy, a description of some lands, and a copy of the original lease.

Mr. Lewers—I handed you an original.

(The last question is read by the reporter.)

A. No, I did not.

Mr. Mills—Now, just a minute. That is further objected to for the reason that the witness stated that he never was in the Elk Hills until the spring of 1911, and it appears by the record that the patent was issued in 1904, in the month of December.

Q. By Mr. Lewers—Had you finished your answer, Mr. Anderson?

A. No.

Q. Kind complete it.

A. This question recalls the fact that the answer I gave to a question on cross-examination ought to be revised somewhat. I stated that perhaps I would have included this land if it had been patented, I perhaps might have included it in the lease, or in my recommendations for lease, though I didn't think I

would. Now, I made a report on lands through the Midway and McKittrick fields and wherever I expected oil to exist, in 1907, and accompanied this report with lists on which I included all lands that had any prospective value for oil. These lists did not include any lands in Township 30-23, except section 31, and that was included because it was contiguous to the Buena Vista anticline, part of it was; and this was made after the lands involved in this suit were actually patented.

Q. Were there any restrictions upon you as to the land that you could include in that recommendation?

A. There was not.

Mr. Lewers—That is all.

RE-CROSS EXAMINATION  
OF FRANK M. ANDERSON

By Mr. Mills: [2194]

Q. Isn't it a fact, Mr. Anderson, that Section 31 which you just referred to, was included in the lease of August 2nd, 1904, with the Kern Trading and Oil Company?

A. I don't know; I don't know that it was included.

Q. Do you know that there was a lease executed by Mr. C. H. Markham on behalf of the Kern Trading and Oil Company and presented to Mr. Eberlein to be executed by him on behalf of the Southern Pacific Railroad Company, which included Section 31 among other lands?

A. I never saw that lease.

Q. Did you prepare that recommendation for any of the lands in that lease?

A. Quite likely I did.

Q. Now, that lease included all of the lands whose descriptions I gave you on cross-examination, and as to which you stated that you had never made a report verbally or otherwise until after January 31st, 1905?

A. I stated that I had visited all these lands, or most of them, I think perhaps all of them, unless it might have been Sections 13 and 25 of 30-22, and that I did not recall making any written report, but that I did make a verbal report, and perhaps a map. I have no recollection of the map, but if I made any report other than a verbal report, it was as represented on the map.

Q. Did you understand at that time that that was in preparation of a list of lands to be included in a lease to the Kern Trading and Oil Company from the Southern Pacific Railroad Company, defendant?

A. I did.

Q. Did you know that that lease was prepared and executed by Mr. Markham on August 2nd, 1904, and that it is in evidence in this case?

A. I did not know that. [2195]

Q. Do you now know that it includes all the lands whose descriptions I gave you?

A. Well, I don't know it except from hearsay.

Q. Now, what was the purpose of another and different lease covering the same lands in 1907?

A. I think—you say what was the purpose?

Q. Yes.

A. The purpose of the subsequent lease was to include all the possible lands or prospective oil lands that were omitted from the former lease; that was one of the purposes; I know I was given to understand that in the request for a report.

Q. I don't care what you were given to understand. I want just what you know of your own knowledge.

Q. By Mr. Lewers—You may answer.

A. I was given to understand that the examination—

Q. By Mr. Mills—I said I didn't want what you were given to understand. I only want what you know of your own knowledge.

Mr. Lewers—Well, I submit that is responsive. You asked what his understanding of the situation was.

Q. By Mr. Mills—Did you know that this other and subsequent lease was to contain the same lands that were included in the lease of August 2nd, 1904?

A. No.

Q. You thought that it was to include separate lands, didn't you, which were omitted?

A. They were looking to a revision of the lease, which revision should include all lands of a prospective character not included in the former lease.

Q. And yet if these lands had been patented at the time you were out in 1903, and by these lands I mean the lands in suit, you would have recommended them to be included in that lease?

A. I didn't recommend them to be included in the report I made [2196] in 1907.

Q. I say if they had been patented in 1903, you have stated that you would have recommended those lands to have been included in that lease?

A. I said perhaps I would, and then after a little thought I said that I hardly think that I would have included them, because I didn't consider those lands oil lands.

Q. You didn't have any opportunity to know whether they were oil lands, did you, if you hadn't examined those lands prior to April, 1911, and the lease to which you refer was made in 1907?

A. I did give them what examination I thought they required.

Q. That is, you though you would make a long distance examination, standing on an exceeding high mountain, when Mr. Owen pointed out the Elk Hills and the lands in suit, or the equal of them, so to speak. Matthew IV-1.

Mr. Lewers—I instruct you, Mr. Anderson, that you are not required to answer purely frivolous questions.

Q. By Mr. Mills—You didn't expect, did you, Mr. Anderson, to have the court understand you that an examination of that character would be an ex-

amination determinative, even to your own mind, as to the petroleum-bearing character of those lands?

A. Yes. I expect to be understood to mean that I thought the most essential examination was a study of the outcrop and the conditions represented throughout the field generally along the flanks of the Temblor Range, and that such an examination would reveal more facts pertinent to the questions and determinative of the questions involved, than any examination I could make riding over the surface of the Elk Hills, where no marine beds were exposed, and only a limited amount of fresh water beds could be seen cropping out on the surface.

Q. Well, how did you know that prior to the time you went into the hills? [2197]

A. I trusted Mr. Owen's statement of the fact.

Q. Yes. So that you had no personal knowledge at all of that, did you?

A. Except his statement was confirmed by what I saw with my own eyes about the flanks of the Temblor Range and the McKittrick and Midway.

Q. Do you mean to say, Mr. Anderson, that in preparing a list of lands to be included in a lease from the Southern Pacific Railroad Company to the Kern Trading and Oil Company, involving a great many thousand acres of valuable lands, that you would have made a recommendation without examination at all of the lands which you were to recommend?

A. Well, I thought that I had in this particular case made sufficient examination.

Q. Didn't you state yesterday on cross-examination that you always made it a point to go upon the lands as to which you made recommendations so as personally to examine the lands?

A. I believe I stated that I never reported on lands that I could not find or that I had not reached—didn't have satisfactory proof that I had been on.

Q. And yet you are willing to state that standing six miles away, looking at those hills, you could have formed an opinion about the recommendation as to an important lease of that kind, without actually going on them?

A. Did I say that I had made a report on them?

Q. No. No; you did not. You said you hadn't made a report on them.

A. I think that I was able to draw valid conclusions, trustworthy conclusions.

Q. You had never been in the Elk Hills until April, 1911?

A. No; I had not.

Q. Well, now, is not that the real reason why you didn't [2198] recommend the lands to be included in the revised list to the Kern Trading and Oil Company—was because you didn't have sufficient knowledge to make a recommendation?

A. No. The real reason is that I thought they were not oil lands.

Q. And you took a statement from Mr. Owen to that effect?

A. No; I didn't. I took Mr. Owen's statement in connection with what I could see in the neighborhood, which formed the basis of my conclusions. Mr. Owen's statements I thought were trustworthy. I never found Mr. Owen disposed to deceive me as to matters of fact, and I never attempted to deceive him. I tried to tell him the truth, and I felt that he tried to tell me the truth.

Q. You were willing to take hearsay testimony as to that at that time and not make any examination at all until April, 1911?

A. His account of the—

Q. Well, just answer the question. I didn't ask you about his account.

Mr. Lewers—As long as it is responsive, he can answer it in his own way.

A. Yes, if you wish to call it hearsay evidence. I felt that his examination was satisfactory. His account of them was quite satisfactory to me.

Q. By Mr. Mills—How long do you think you would have held your position in the Southern Pacific Company's geological department if you had been bold enough to make a recommendation one way or the other about lands in the Elk Hills which you had never been on in 1907?

A. I am sure I don't know how long I would have held my position. Probably as long as I did hold it.

Q. Would you keep in your employ a geologist

who would make a recommendation on lands that he had never been on at all?

A. Yes. [2199]

Q. —involving some 6,000 acres—

A. Yes; under some—

Q.—and extending for a distance of six miles one way and three miles the other?

A. Under such mitigating circumstances as existed in this case I would.

Q. By the “mitigating circumstances,” do you mean the fraudulent and unlawful urging of the selection of these lands?

A. Not at all. I mean the very unfavorable appearance after due reflection, and the position of the Elk Hills. The geographical position is one of the determinative factors in the case.

Q. You say that you never heard of any gas being discovered in the Elk Hills prior to the drilling of these wells which appear upon Defendants' Exhibit 16. Is that correct?

A. I believe I did state that.

Q. Don't you know that there was a well drilled in 1901, or 1900, in the Elk Hills, on Section 11 of 31-24, where gas was discovered at about the 500-foot level and burned for fuel?

A. I had no knowledge of that, Mr. Mills, until within the last six months.

Mr. Mills: That is all.

REDIRECT EXAMINATION  
OF FRANK M. ANDERSON

By Mr. Lewers:

Q. Now, coming right back to the proposition Mr. Mills has asked you, and basing your answer upon all of the examination you have made today, was it really necessary to go into the Elk Hills in 1903 and '04, in order to reach a correct determination as to whether or not that was oil land out there?

A. I think it was not necessary.

Q. Where do you find the evidence that enables you to reach [2200] the conclusion that those are not oil lands? That is, where are the physical evidences situated?

A. Please read that question again. (Question read by the Special Examiner.) You mean oil lands in a commercial sense?

Q. In a commercial sense.

A. I might answer like this: Since the drilling of those wells and the actual discovery of a little oil in those hills—

Mr. Mills: I object to that.

Q. By Mr. Lewers: My question is directed to a time prior to any drilling in the Elk Hills.

A. As I have stated before, we have to take into account the general geological conditions existing about the flanks of the Temblor Range and the country at large and the geographical position of the Elk Hills and the conclusions reached by a proper consideration of the conditions under which marine

and fresh water deposits were formed and laid down over that region, and all other such considerations; and the proof or the data upon which an adverse conclusion could be based would be derived from an examination, chiefly, of the outcrops, and from the consideration of the geographical position of the hills with reference to the outcrops, and so forth.

Q. And would it be necessary for you to go into the Elk Hills to get any of that data?

A. I don't think it would.

Q. Did you have any reason to question the accuracy of Mr. Owen's statement concerning the outcrops in the Elk Hills?

A. I did not.

Q. And did you accept that as one of the items in reaching your conclusion?

A. I did.

Q. And what has been the result of your subsequent investigations, as far as confirming or disproving what Mr. Owen told you? [2201]

Mr. Mills: That is objected to, as it has been gone into two days by you on direct examination.

A. I think that nothing has yet been proved commercially valuable in the Elk Hills, or valuable in any way, that would upset my original conclusion that the land was not commercially valuable for oil.

Mr. Mills: I move that the answer be stricken, as a conclusion of the witness, not responsive to the question at all.

Q. By Mr. Lewers: Are there any marine beds in their outcroppings?

A. Not that I know of. As I stated before, I believe there are not.

Q. Do you know whether or not, Mr. Anderson, the destruction of the records and files and papers of the railroad company that took place in the fire of 1906 had anything to do with the preparation of a new lease to the Kern Trading and Oil Company?

A. I hadn't thought of that. Perhaps it did.

Mr. Lewers: That is all.

RECROSS EXAMINATION  
OF FRANK M. ANDERSON

By Mr. Mills:

Q. Could you determine the structure of the Elk Hills, standing off on that high mountain with Mr. Owen in 1903?

A. Yes.

Q. Without personal examination?

A. Yes.

Q. You knew, right away, it was anticlinal in structure?

A. It appeared to be so as I came in on the train.

Q. And you knew there was a line of seepages running from Temblor down as far as Sunset, at that time, didn't you, on the eastern flank of the Temblor Range?

A. Yes; there were seepages of oil and oil-sands strewn along [2202] the line between McKittrick and Sunset.

Q. And those two facts were sufficient to make you believe that the Elk Hills were oil lands, without anything further, weren't they?

A. No sir.

Q. Didn't you immediately ask Mr. Owen, the very first question, whether he didn't believe those lands were oil lands?

A. They were not sufficient to base any such judgment upon.

Q. Well, did you immediately ask him if they were oil lands then?

A. As I stated in my direct testimony, the first appearance of these hills aroused my interest, and the second appearance, and the third, and when we were on the hills—this high hill north of the Temblor Valley—the Elk Hills were in plain sight and their structure was apparent from that point of view and I asked him if he had been there and he said he had and he said that the Elk Hills—

Q. Now, I am not asking you anything about that at all. I am asking you why you asked him if they were oil lands if you thought they were not oil lands.

A. Because I had a suspicion that they might be. But that was at first thought. After due reflection I thought differently.

Q. And you came to that conclusion, without ever going in there at all, while standing on a high mountain six or eight miles away?

A. I didn't come to any conclusion.

Q. Didn't you say you did?

A. My conclusion at that time was that they were a long ways out from the outcrop, where I expected to find the outcrop.

Q. They are not any further out than the Buena Vista Hills, are they?

A. Oh, yes sir.

Q. In fact, they are within a mile to two miles nearer than [2203] the Buena Vista Hills—the outcrop—aren't they?

A. No; no.

Q. Well, is not that true?

A. No.

Q. Doesn't the anticlinal structure come clear up as far as the railroad track in Section 14 of 30-22?

A. No; they do not. The structure that is apparent at the railroad track is connected with the anticline in the hills north of McKittrick, north of the McKittrick Hills.

Q. Don't you know, Mr. Anderson, and aren't you fair enough now to state, that any competent geologist, standing on the McKittrick front there, knowing that line of seepages from Temblor down to Sunset along the eastern flank of that range, and knowing the anticlinal structure of the Elk Hills, would not know his business unless he at once believed that those lands were favorable for the accumulation of petroleum?

A. Mr. Mills, that is an assumption based on an assumption, is it—your question?

Q. No sir. I am asking you as a fact if you don't know that any competent geologist would instantly determine that that was a favorable spot for the accumulation of petroleum?

A. You are assuming that he knew those things and that these conditions existed along the flanks of the Temblor Range—he knew them. Now, I presume an answer based on presumption would be sufficient. If I was in the vicinity of a populous city, on a hill surrounded by a blue fence and containing monuments or wooden and stone slabs on which were engraved the names of deceased men and women, I would think this was sufficient evidence that this place was a cemetery, without having the bones dug up and the skeletons identified. Now, the Elk Hills look to me today to be exactly in that class of things; it looks like a cemetery of disappointed hopes.

[2204]

Q. I am not asking you about it now; I am asking you about it at the time when you determined, in 1903, after one or two years' experience in geology.

A. I concluded at that time that it was a good place for a cemetery.

Q. Now, are you acquainted with Dr. Branner?

A. Yes.

Q. Do you regard Dr. Branner as a competent geologist?

A. Yes; as far as his competency is concerned, he is a competent geologist.

